The early chamber music of Darius Milhaud : style and stucture.

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THE EARLY CHAMBER MUSIC OF DARIUS MILHAUD: STYLE AND STRUCTURE

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THE EARLY CHAMBER MUSIC OF DARIUS MILHAUD: STYLE AND STRUCTURE: ABSTRACT

The aim of the dissertation is to explain style and structure - principally of pitch - in Milhaud's abundant chamber music between 1917-1927, as one manifestation of neo-Classicism. Part I (Background) has two chapters: the first placing Milhaud's music in context and establishing its main stylistic elements, before focusing on the chamber music and selecting eight works for analysis.

Chapter 2 seeks analytical approaches and discusses Milhaud's treatise: 'Polytonalité et Atonalité' (1923). The main difficulty is with the concept of 'poly-tonality', and in fact the study favours a broad, resultant modality rather than a narrow tonality, and disputes the existence of several simultaneous modalities. An analytical mixture of voice-leading and set-theory is advocated, embracing ideas of van den Toorn, Straus, Meyer and Hindemith/Neumeyer dependent on context. Polarity, octatonicism, pattern-completion, implication-realisation, third relations, tension theory and fundamental bass all have roles to play; and hierarchic structural levels are still useful.

The chapters of Part II (Musical Analysis) trace Milhaud's stylistic development, from his early exploratory works to those reflecting his interest in Brazilian popular music and Jazz, and concluding with compositions that are essentially neo-Classical. Each chapter has a stylistic/technical outline leading to detailed analyses, the best known work being La Création du Monde.

Chapter 6 (Part III: Conclusions) draws analytical conclusions, and evaluates the effectiveness of the various approaches adopted. The stylistic elements are brought together within a 'Total Entity'. Finally, 'The Way Ahead' suggests that knowledge of Milhaud's music of the 1920s may assist comprehension of his later output, through a 'neo-Classical Ideal' (early 1940s) and 'eclectic balance' (long-term). Equally, the study may find wider application in elucidating the music of neo-Classical contemporaries.

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PREFACE

My interest in neo-Classicism of the 1920s, especially that of Darius Milhaud, extends back over several years. My analytical dissertation for B.Mus. Hons., (Class 2.1, 1983), was concerned with connections between three viola concertos of 1929 composed by Milhaud, Hindemith and Walton. Then, on the Advanced Course at the Royal Academy of Music (1983-84), where I gained the L.R.A.M. (Viola Teachers'), I tested out the analytical interpretations in performance, playing Milhaud's Premier Concerto pour l'Alto et Orchestre and his highly neo-Classical works of the mid 1940s: Quatre Visages (1943), Première Sonate pour l'Alto et Piano (1944) and the Trio à Cordes (1947). Having explored these specific areas of Milhaud's oeuvre through analysis and performance, my subsequent wish was to broaden the scope of my investigations, and, by examination of music from an earlier period (1917-1927), to ascertain how Milhaud's mature style was formulated.

A detailed study of Milhaud's contribution to musical literature seemed particularly appropriate at the present time, because of the impending centenary of his birth in 1992. This date is also one which represents increased links with Europe, in a much broader sense. Perhaps then, Milhaud's music may receive the greater attention that I consider it merits.

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During the preparation of this dissertation, I have been indebted to several individuals and institutions for their assistance. Thanks are due firstly to my supervisor, Professor Arnold Whittall, for his constructive criticism and guidance during the writing of this dissertation at King's College London (KQC).

I am appreciative of the response from individuals in Milhaud's native city of Paris. Letters from Madeleine Milhaud and François Lesure, Conservateur en Chef de la Musique, at the Bibliothèque Nationale, have proved most valuable. I am also grateful for the generous assistance offered by staff at the Phonothèque of the Bibliothèque Nationale during my visit there (1), and for information provided by the Music Department of the Université de Paris-Sorbonne and the Conservatoire Nationale de la Musique. In the United States, the assistance of Eva Konrad Kreshka of The Milhaud Collection, at Mills College, Oakland, California is also acknowledged.

Information on the availability of elusive scores, articles and books has been supplied by several publishers: United Music Publishers, Schott and, most particularly my previous employer, Universal Edition; as well as by the British Library, and University of London Library. Financial assistance has been kindly provided by Bournemouth and Poole College, Dorset, where I have been employed as Lecturer in Music since 1986.

Finally, I pay tribute to the long-term support of my husband, John Roberts, who has borne with me throughout this project.

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(1) Relevant recordings, available at the Phonothèque, are listed in Appendix 3, Section C.

INTRODUCTION

The aim of this dissertation is to explain style and structure - principally of pitch - in Milhaud's 'early' chamber music, defined by Jeremy Drake as before 1930 (1). The abundant output of these years (specifically 1917-27) is one manifestation of the neo-Classicism predominant in the 1920s. The dissertation is presented in three Parts: I Background; II Analysis of the Music (application of ideas from I) and III Conclusions.

Part I has two chapters, the first concerned with the subject-matter, the second with analytical approach or methodology. Chapter 1 begins by placing Milhaud's music and attitudes in historical context, making stylistic comparison with Stravinsky, Hindemith, Milhaud's compatriots and other Jazz-inspired composers. This leads to more detailed discussion of the stylistic elements of (or tendencies in) Milhaud's music, these being the subjects of chapters 3, 4 and 5. The special place of the chamber music in Milhaud's output is emphasised: the early period seen as dating approximately from the first chamber symphony (1917), to the clarinet sonatina (1927). Finally, criteria are established for the selection of eight chamber works, to be analysed in Part II.

Chapter 2 seeks analytical approaches to the chosen repertory, commencing with discussion of Milhaud's treatise: 'Polytonalité et Atonalité' [1923] (2). Current analytical literature is surveyed, including the limited amount on Milhaud's music and, where applicable, the considerable amount on contemporaries such as Stravinsky. The priority

(1) J. Drake, The Operas of Darius Milhaud, (O.D.M.), New York, London 1989, p.318.
(2) Darius Milhaud, 'Polytonalité et Atonalité' ('P.A.'), La Revue Musicale, IV, February 1923, pp.29-44.

lies in finding ways to explain pitch structure, since this seems to predominate over metre and rhythm. In the words of Drake:

> For Milhaud, the metre serves primarily to give the melody the required rhythmic fluidity (3).

The main analytical problem is with 'poly-tonality', a term typically used in connection with Milhaud's music and indeed by the composer. However, although Milhaud viewed his music as 'poly-tonal' from a compositional stance, the idea is not helpful from perceptual or analytical stances. That the term was acceptable in the 1920s but is much less so now is also due to development and changing fashion in analytical thinking. There are reasons to dispute both parts of the term 'poly-tonality'. Most importantly, the concept and nature of modality seems a more productive way of approaching Milhaud's music, which is broadly modal rather than narrowly tonal. Its terms of reference embrace pentatonicism, octatonicism, Blues scale, Lydian, Dorian and Ionian modes, together with many other flexible, hybrid constructs. As Jeremy Drake suggests:

> it is only with qualifications that we may term Milhaud a tonal composer, for the true basis of his music is not tonality, but modality (4).

Equally, the prefix 'poly' is of dubious perceptual and theoretical value. The concept of the simultaneous existence of several different tonal or indeed modal lines seems invalid, since one tends to perceive a resultant accumulation of all pitch material heard at any particular moment, strongly influenced by the bass progression. Localised bi-modality seems more worthy of consideration, as an expression of balanced polarity (often in the context of

(3) J. Drake, op. cit., p.195.
(4) Op. cit., p.201.

a quartet) and is supported by Richard Taruskin, though still dismissed by Arthur Berger (5). In Schenkerian terms, both 'poly-tonality' and 'bi-modality' are impossibilities.

Although valuable biographical work has been undertaken on Milhaud by Paul Collaer (6), analytical thinking has tended to be conventional. Collaer is more concerned with aesthetic and historical issues than with those of poly-tonality. More recently, K.W. Daniel has applied set-theory to some of Milhaud's works (7) and Jeremy Drake has discussed modality in the operas (8); but, despite a number of American dissertations, no one has tested the modal concept analytically by applying a mixture of Salzerian voice-leading analysis and Forte's set-theory to a representative selection of Milhaud's works. Chapter 2 advocates this mixture, also embracing ideas of Pieter van den Toorn, Joseph Straus, Leonard B. Meyer and Paul Hindemith/David Neumeyer, dependent on context. In view of the paucity of analytical work on Milhaud's music, some experimentation seemed justifiable and desirable. In the following discussions, polarity, octatonicism, pattern-completion, implication-realisation, third relation, tension theory and fundamental bass all have roles to play; and a hierarchy of structural levels still provides a useful framework. Finally, one should stress the need for open-mindedness and flexibility: the essentially French qualities which give Milhaud's music its 'life' cannot be fully comprehended from a purely structural standpoint. Above all, free melody is paramount.

(5) Full references for Taruskin, Berger, van den Toorn, Straus, Meyer, Hindemith/Neumeyer are given in Chapter 2 & bibliography.
(6) Paul Collaer, Darius Milhaud, Paris, Geneva, 1982; tr./ed. J.Galante, San Francisco, London, 1988.
(7) K.W. Daniel, 'A Preliminary Investigation of pitch-class set analysis in the atonal and polytonal works of Milhaud and Poulenc', In Theory Only, 6, 1982, pp.22-48.
(8) J. Drake, op. cit., 'Modality' pp.201-7; 'Polymodality' pp.221-230.

The chapters of Part II correspond with stylistic elements of Milhaud's music and allow for grouping of works in three broad categories: (1) those in the early 'exploratory' style, (2) those inspired by Brazilian or Jazz features, and (3) those which are strongly neo-Classical.The justification for this approach, provided by Milhaud's own writing, is given in 'The Elements of Milhaud's Music' (Chapter 1). The 'compartments' represented by chapters 3, 4 and 5 are not 'water-tight'. To make them so would be to impose a rigid system such as Milhaud abhorred, and which would not fit his music. The chapters do explore differentiated aspects of Milhaud's music and are justifiable on that account; yet it is often undesirable or impossible to place a work wholly within one (stylistic/structural) compartment. This is perhaps part of the appeal of Milhaud's music. The chapters of Part II are complementary: for instance, the exploration (or image of a 'melting-pot') of Chapter 3, contains in it the sources of Milhaud's Jazz-inspiration and neo-Classicism.

Part II reflects the title of the dissertation in its many references to 'style', which is a general aesthetic concern, sometimes assuming a historical perspective, and distinct from 'structure', which is of a specific, technical nature. A work may broadly adhere to a neo-Classical style, but this does not in itself define the structural techniques involved. Style is more than a superficial, decorative concern and can represent the collective identity of several structural techniques, operating at ornamental and fundamental levels; the shaping of the component structures affects the resultant style. Thus, there is close correlation between style and structure, but they are not synonymous.

Each chapter of Part II commences with a stylistic/technical outline, explaining the background and nature of a certain element and its typical structural techniques. Breadth of coverage has been gained by studying as much music as possible, within the limits imposed by such a sizeable repertory - all chamber works with opus numbers between 40 and 100! - listed fully in Appendix 2. Depth of coverage is the preserve of the eight analyses, two or three of which are placed in each chapter. Operas and ballets are mentioned if they constitute chamber music, e.g. 'opéras-minute' and La Création du Monde, or are of such stature that it would be perverse not to refer to them. The early period is flanked by two such masterpieces. The early poly-rhythmic/metric ballet, L'Homme et son Désir (1918), is relevant in discussion of the Brazilian/Jazz element and the successful, innovative opera, Christophe Colomb (1928), was one reason for Milhaud's break in chamber music composition between 1927 and 1932: noteworthy for a composer who had written several chamber works each year for the previous fifteen years, culminating with five works in 1927 alone.

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Chapter 3: 'Exploration', discusses Milhaud's training at the Paris Conservatoire. Beyond derivative student pieces, there is stylistic diversity, though this is still essentially late-Romantic, involving much chromaticism. Pieces between about 1918 and 1922 also feature octatonicism and polarity, occasionally bordering on atonality. They are amongst Milhaud's most radical and extraordinary, marking a pivotal point in his career, where one senses that neo-Classicism was not the only option open to him.

Chapter 4 examines Milhaud's interest in Brazilian Music and Jazz, mentioning visits to the United States to experience, assimilate and express the Jazz style for himself. The

technical outline identifies inherent structural techniques, focusing on the Blues scale. There is a stronger sense of pitch centre than in the highly chromatic, exploratory pieces. Brazilian-inspired works, such as Saudades do Brazil (Analysis 4), lead to Jazz-inspired ones, culminating in Milhaud's best known masterpiece: La Création du Monde (Analysis 5). This work also owes much to developing neo-Classicism and is ultimately a synthesis of the two styles. Equally, Milhaud's interest in Brazilian music and Jazz is part of a wider eclectic approach, also embracing Provençal and Jewish folksong, and the Blues scale is part of a broader modal approach, as seen in Chapter 5.

Chapter 5 views the most important stylistic element in Milhaud's music of the 1920s: neo-Classicism and its use of flexible, refined modality. This firstly co-exists with the Jazz-inspired element, then supersedes it. The technical outline investigates structural processes, centred on modality, exhibiting some common ground with those described in chapters 3 and 4, though third relations, the Triad Motive, ostinato, 'pillar chords', ternary and fugal structures are more prominent and refined than before. Many modes are employed in a flexible fashion (9), especially Lydian, Mixolydian, Dorian and a 'new' mode (Altered Mixolydian). Analyses include the second 'opéra-minute' and Sonatine pour Clarinette Op.100.

The elements of Milhaud's music are brought together in the 'Total Entity' (Part III: Chapter 6), as a product of the dictum: 'the whole is greater than the sum of its parts'. It is useful and necessary to investigate the separate elements of Milhaud's style, but it is equally important to reassemble the components and explain the co-existence of

(9) The free use of modality demonstrates Drake's concept of 'inflectional polyvalency': J. Drake, op. cit., p.206.

Jazz and neo-Classical elements and other eclectic allusions. Balance has to be restored. Although a work may be, for instance, largely a product of Milhaud's interest in Jazz, other elements can infiltrate and complicate the total entity.

Chapter 7, 'The Way Ahead', suggests that knowledge of Milhaud's style and structure in the early chamber music may assist the comprehension of his later output. The 1920s were his formative years, during which the seeds of future development were sown. Alternatively, Milhaud's chamber music of the 1920s may be viewed as a yard-stick by which to measure later achievements, especially beyond 1945. One area of his later chamber output is seen as refining an abstracted, pure neo-Classicism, in search of an elusive 'neo-Classical Ideal'. The ideal places refinement, balance, simplicity, economy and formal clarity to the fore, together with a desire to rediscover Baroque counterpoint. Despite its subjectivity, this may be a productive way to approach the sonata repertory of the 1940s. The second section of this chapter argues that though neo-Classicism figures large in certain later works, the overall view is of a carefully gauged 'Eclectic Balance', where various elements are invoked, juxtaposed or synthesised, dependent on context.

The Final Remarks confirm Milhaud as a neo-Classical modal melodist, who always maintained that he composed poly-tonally (10), comparable in certain respects with Stravinsky and Hindemith and in keeping with the musical aesthetic of the 1920s. The remarks also highlight areas for future analytical research into Milhaud's music, and ways in which the study may be of use in a wider neo-Classical context.

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(10) J. Drake, O.D.M., p.221.

Throughout the dissertation, there is much translated material, from Paul Collaer's biography: Darius Milhaud, and from Milhaud's books and articles. Quotations from Collaer's biography are usually by means of the revised version, translated and edited by Jane Galante, with assistance of Madeleine Milhaud (11). Where a portion of the French original is omitted from the English edition, I have used my own translation. Milhaud produced at least twenty pieces of writing on music and musicians, as articles, essays and books, a full list of those consulted for this study being given in Appendix 1. Several pay tribute to fellow composers, writers and choreographers, including Honegger, Gédalge, Diaghilev, Satie, Bartók, Claudel and Stravinsky; others include conversations, correspondence and Milhaud's views on the music of his own time (12).

The two versions of Milhaud's autobiography provide witty, anecdotal accounts of his musical life, with some technical details, and are used frequently as a source of stylistic comment. The first French edition of Notes sans Musique (1949) was followed by an English translation: Notes Without Music (1952) (13). Twenty-five years later, Milhaud completed his autobiography which was retitled Ma Vie Heureuse (1974). A new edition of Ma Vie Heureuse (M.V.H.) subsequently appeared in Paris in 1987, but as yet there is no new English translation. However, despite the various editions, there are few changes concerning details of Milhaud's early years, so that the standard translation is still used in most instances. When this is not accurate, I

(11) P. Collaer, ed. J. Galante, Darius Milhaud, San Francisco, 1988.
(12) The collected critical writings are available in French, ed. J. Drake: Notes sur la Musique: Essais et chroniques, Paris, 1982.
(13) D. Milhaud, Notes Sans Musique, Paris, 1949; Notes Without Music, tr. Donald Evans, ed. Rollo H. Myers, London, 1952.

have substituted my own translation. Of greatest technical interest are the essays: Etudes (14), the articles: 'Polytonalité et Atonalité' (15) and 'The Evolution of Modern Music in Paris and Vienna' (16), and writings on Brazilian music and Jazz (17). Translations from these and prefaces to scores are my own unless otherwise stated. Quotations from 'Polytonalité et Atonalité' (in Chapter 2) are given in English translation, with references in footnotes, and a copy of the complete French article supplied separately. This policy was adopted for analytical clarity and consistency, since the other analytical sources were in English. However, in the stylistic outlines of chapters 3, 4, and 5, which use a variety of French sources, it was more appropriate to quote in the original language, with the English translation given in footnotes. Occasionally, a phrase is left untranslated, because it conveys so much more in its original form.

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(14) D. Milhaud, Etudes, Paris, 1926-7.
(15) D. Milhaud, 'P.A.', La Revue Musicale, IV, February 1923, pp.29-44.
(16) North American Review, 217, April 1923, pp.544-554; Franco-American Musical Society Bulletin, I, September 1923, pp.8-16.
(17) 'La Musique au Brésil', Chroniques et Notes, La Revue Musicale, I, 1920, pp.60-61; 'L'évolution du Jazz-Band et la Musique des Nègres d'Amérique du Nord', Etudes, pp.51-59.

PART I.

THE BACKGROUND

CHAPTER 1

THE EARLY CHAMBER MUSIC IN CONTEXT

Chapter 1 proceeds from the general to the particular. It begins with a discussion of Milhaud's music in the light of contemporary developments. It then considers the stylistic and structural elements of his music, and places the works selected for analysis in the context of his chamber music.

MILHAUD AND HIS MUSIC IN RELATION TO HIS CONTEMPORARIES

Darius Milhaud (1892-1974) belonged within a musical and artistic culture which was centred on Paris, though for compositional inspiration he often returned to his family home near Aix-en-Provence. Like most composers of his generation, he could not escape the influence of Debussy and Ravel in his works before 1918. However, in 1920, rather by accident than design, he became one of 'Les Six'. This journalistic epithet of Henri Collet helped to gain initial notoriety for the young composers concerned, but suggested a common artistic purpose which did not exist. Milhaud came to resent the fact that by association with 'Les Six' he appeared as a mere exploiter of frivolous novelty. More detailed comparisons with members of 'Les Six' will be made later; suffice it to say here that Milhaud was inspired and influenced by the group's mentor and 'mascot': Erik Satie (1866-1925).

Of great significance to Milhaud, especially before 1930, were his friendships with writers: Paul Claudel (1868-1955), Léo Latil, Francis Jammes (1843-1916) and André Gide (1869-1951), as well as Blaise Cendrars and the cubist painter Fernand Léger (1881-1955). Given this, I was interested to know Madeleine Milhaud's views on the question of influence. Her response was that Paul Claudel was indeed the single,

most important influence upon her husband; and that, musically, he was more affected by composers from the eighteenth and nineteenth-century than by any contemporary (1). However, Milhaud was a composer of his time, sharing the neo-Classical outlook predominant in Paris of the 1920s, together with something of the Gebrauchsmusik philosophy of Hindemith.

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Milhaud was ten years younger than his most important musical ally, a man for whom he held great admiration: Igor Stravinsky (1882-1971). Both were active in Paris during the 1920s and in their ideologies were concerned to move away from the German hegemony, epitomised by Wagner. Milhaud's antipathy to Wagner is stated colourfully in Ma Vie Heureuse (2). This was perhaps one reason for Milhaud and Stravinsky's favouring of modality over tonality, though in Milhaud's case, this was mainly the result of his 'double-heritage' of Jewish liturgical music and Provençal folk-song (3). In their neo-Classicism, both sought economy of means, though Milhaud worked in miniature more readily than Stravinsky (4). Both composers made prominent use of third relations, an idea explored, in relation to Stravinsky, by Joseph Straus: 'Stravinsky's Tonal Axis' (5). Carefully balanced polarity is also important in their music, especially at the tritone within

(1) Madeleine Milhaud, within a letter dated October 1986, in response to my enquiry: 'Influence: Claudel. Influence musicale. Berlioz- (name then deleted). Je pouvais citer cent qu'il admirait: Gounod, Verdi, Mozart, Bach, Berlioz. Voilà!'
(2) Darius Milhaud, M.V.H., 'A bas Wagner!', 'Down with Wagner!', p.97.
(3) J. Drake, O.D.M., p.201.
(4) Op. cit., p.220. 'The situation is comparable with that of the pretonal modal music of the Renaissance polyphonists, and like them Milhaud is incapable of large-scale harmonic organisation .'
(5) J. Straus, op. cit., J.M.T. (26), 1982.

octatonic contexts (6). Generally, Stravinsky's modal language is more blended and integrated than that of Milhaud, which is more disparate, in seeking to characterise different contrapuntal strands.

Both Milhaud and Stravinsky assimilated Jazz into their music and both discovered the close relationship between the textures and rhythmic momentum of Baroque music and Jazz. Milhaud's contribution is perhaps more authentic than Stravinsky's, though one could compare Milhaud's Trois Rag-Caprices for Piano (1922), later orchestrated, with Stravinsky's Piano-Rag Music (1919). However, there is no equivalent to Milhaud's ballet: La Création du Monde (1923), despite 'Rag-time' allusions in L'Histoire du Soldat (1918) and the Rag-time for 11 Instruments (1919). Whilst Stravinsky concentrated on the more old-fashioned Rag-time, studied from scores and recordings, Milhaud endeavoured to understand and assimilate true Jazz, with its Blues-inspired vocal inflexions. His interest in popular music had first been awakened by his time spent in Brazil, working for Claudel in 1917-1918, after which he made several visits to the United States in search of authentic negro Jazz.

Like Stravinsky, Milhaud also wrote for the Parisian ballets. Stravinsky was commissioned by Diaghilev for the Ballets russes, and Milhaud by Rolf de Maré for the Ballets suèdois. The astounding rhythmic polyphony of Milhaud's L'Homme et son Désir (1918) was accorded a very similar reception to the riot which accompanied the première of Le Sacre du Printemps (1913).

(6) Consult P. van den Toorn, The Music of Igor Stravinsky, New Haven, London, 1983. Of particular interest in this respect is the analysis of Petroushka (1911). For further discussion of van den Toorn's octatonic approach, refer to Chapter 2, pp.62-3, of this dissertation.

Milhaud and Stravinsky were both interested in composing for woodwind in the early 1920s. Milhaud's Cinquieme Petite Symphonie: Dixtuor d'Instruments à Vent (1922) was written a year before Stravinsky's wind octet and two years after the Symphonies of Wind Instruments. Although Stravinsky's octet is a more integrated and successful work than Milhaud's Dixtuor, the Dixtuor does show Milhaud prepared to experiment radically. In the later 1920s, both composers were inspired to revitalise Greek tragedy (7). Milhaud's interest extended back to his L'Orestie trilogy (1917-1922), followed by the fine chamber opera, Les Malheurs d'Orphée (1925) and the trilogy of 'opéras-minute' (1927). In fact, the final scene of the second 'opéra-minute', L'Abandon d'Ariane has a distinctly Stravinskian character, as will be discussed in Analysis 7. 1927 also saw the composition of Stravinsky's Oedipus Rex, followed by Apollo Musagète (1928).

In the 1920s, both Stravinsky and Milhaud reached their peaks of achievement in the genres of chamber music and Greek tragic (chamber) opera. Both maintained their neo-Classicism through the 1930s and 1940s, after emigrating to the United States. Both composers wrote about music and left autobiographies. Stravinsky's Poetics of Music (8), albeit only 'ghosted', may be compared with Milhaud's Etudes. In fact, Milhaud wrote the Preface to Stravinsky's Poetics. Similarly, the various volumes of the Stravinsky-Craft conversations (9) may be compared with Milhaud's Entretiens avec Claude Rostand (10). Milhaud's intense admiration for Stravinsky, first acknowledged in discussion

(7) See R. Zinar, Greek Tragedy in the Theatre Pieces of Stravinsky and Milhaud, Ph.D. diss., University of New York, 1968.
(8) Stravinsky, Poetics of Music, New York, 1947.
(9) One such volume (which makes reference to Milhaud) is: Robert Craft, Stravinsky: Chronicle of a Friendship 1948-1971, New York, 1972.
(10) D. Milhaud, Entretiens avec Claude Rostand, Paris, 1952.

of Mavra (1922) (11), was sustained throughout his life. Both composers died within the space of a couple of years; Milhaud's final tribute to Stravinsky was a miniature for string quartet entitled: In Memoriam I.S. (12).

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The most obvious connection between Milhaud and his German contemporary, Paul Hindemith (1895-1963), lies in Gebrauchsmusik, though this developed more in the 1930s than the 1920s. Both were concerned that music should not be esoteric but accessible and that the composer had a duty to further education through music. However, earlier in the 1920s both composers showed a common debt to Bach, through Milhaud's six Petites Symphonies (1917-23) and Hindemith's Kammermusik series (1922-27). Although both must have been aware of Schoenberg's Kammersymphonie (1906), the initial inspiration seems to have come from Bach's Brandenburg Concertos. In particular, one may compare Milhaud's Dixtuor d'instruments à Vent and Hindemith's Kleine Kammermusik for wind quintet, both composed in 1922. In addition to chamber ensemble music, both composers were interested in the solo sonata, Hindemith being preoccupied with string sonatas in the early to mid 1920s, whilst Milhaud's interest was most evident before 1920 and after 1940.

Their friendship began in 1927, whilst composing miniature operas for the concerts of contemporary music at Baden-Baden, organised by Hindemith. Milhaud produced the first of his trilogy: L'Enlèvement d'Europe, and Hindemith his Hin und zurück. Two years later, Milhaud wrote his first viola

(11) Milhaud, M.V.H., pp.110-111.
(12) Milhaud, Quartet published in 'Canons and Epitaphs', Set 2, Tempo (98), 1972. He also wrote a separate tribute: 'Stravinsky: A Composer's Memorial', P.N.M. 9/10, 1971, pp.9-10.

concerto, dedicated to and first performed by Hindemith in December 1929, at the Concertgebouw in Amsterdam, conducted by Pierre Monteux.

Both composers were interested in reviving Baroque contrapuntal techniques (13) within their neo-Classicism. Milhaud especially was fascinated by fugue, composing at least six examples in chamber works of the 1920s. The most striking similarity in musical language concerns third relations and ambiguity. David Neumeyer identifies this in analyses of Hindemith's music (14), developed from ideas in the Craft of Musical Composition (15), as 'indefinite third relation'. Such resultant ambiguity also abounds in Milhaud's music, often concerning 'rival' modalities a third apart. Other areas of common ground include Hindemith's ideas of structural 'pillar' chords within a predominantly contrapuntal texture, the importance of fundamental bass and a tension theory based on relative dissonance (16). The potentially bizarre confrontation of strong dissonance and a pure consonance is found in both Milhaud and Hindemith. Often, it is the final chord of a movement which reverts to an apparently naive consonance.

(13) Refer to D. Milhaud, 'P.A.', p.30. Some of his initial inspiration for 'poly-tonality' comes directly from Bach's canons and fugues. Compare with Hindemith: 'Atonality and Polytonality', Chapter 4, Craft of Musical Composition I., Mainz, London, 1942, p.152 ff.

(14) D. Neumeyer, Paul Hindemith, New Haven, London, 1986. Analyses of particular interest: Ludus Tonalis, inc. fugue, p.65, Third Piano Sonata (1936) and the Early Music (to 1925): Solo Viola Sonata Op.11 no.5 and Solo Cello Sonata Op.25 no.3 (1922). Indefinite third relation, pp.54-5.

(15) Paul Hindemith, Craft of Musical Composition, III.

(16) D. Neumeyer, op. cit. pillar chords, p.52,76; fundamental bass, p.59; harmonic fluctuation, pp.31,34, 60-1; P. Hindemith, op. cit., fundamental bass, pp. 121-5; fluctuation, pp.115-121.

Like Milhaud, Hindemith also wrote about his music, primarily in his treatise: the Craft of Musical Composition. Lastly, within the very title of this book lies a final similarity of purpose between these composers: the idea of composition as a matter of craftsmanship, rather in the eighteenth-century manner, responding to demand and occasion.

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Milhaud's style is perhaps the antithesis of that of Schoenberg (1874-1951), yet there was contact between the composers. Milhaud strongly admired Schoenberg, though he was never tempted to pursue serialism himself. In fact, one interesting point of similarity exists between Milhaud, Schoenberg and Hindemith: despite their differences, the year of 1923 represented a stylistic land-mark for each of them. This was the date of Milhaud's critical article on poly-tonality and atonality; of Schoenberg's full commitment to the consequences of his earlier serial explorations and of Hindemith's discovery of a 'New Objectivity' (17). Milhaud showed respect for Schoenberg in the dedication of his fifth quartet (1920), which, together with Cinq Etudes of the same year, is amongst his most radical and uncompromising 'poly-tonal' experiments, rigorously pursued. Perhaps Schoenberg recognised the courage and conviction needed in such experimentation (so much a hall-mark of his own writing), even if he did not identify with Milhaud's poly-tonal perspective. In fact, some of Milhaud's effects do border on atonality.

Schoenberg's Kammersymphonie has already been suggested as a possible influence, but I was also interested to know whether Milhaud was familiar with Schoenberg's second quartet, with soprano (1907-8), when he wrote his own, sombre, third quartet for the same unusual combination in

(17) D. Neumeyer, op. cit., p.117.

1916. In the second of three letters, Madeleine Milhaud declares adamantly that Milhaud did not know Schoenberg's quartet at that time. In the third letter, she explains that the first, direct contact between the two was in Vienna, 1922, when they met to discuss the success of the French première of Pierrot Lunaire, conducted by Milhaud (18).

An important difference of approach concerns thematic development, which in Milhaud's music tends to be limited, though he does employ varied repetition, sequence and inversion. However, in terms of structural device, Milhaud is, as aptly expressed by one of his students, Charles Jones: 'allergic to variation form, and this is where his break with the dodecaphonists is most apparent' (19).

Although there are few stylistic connections, there was contact between Milhaud and Alban Berg (1885-1935). The quality and universality of Milhaud's writing within his chamber symphonies was attested to by Berg, who wrote to Milhaud on 23rd April 1923, in order to acknowledge receipt of the new scores:

> My very dear M. Milhaud:
> I thank you sincerely for your five symphonies. After a quick glance, I was delighted with them and eager to study them further. My first impression is that I find your work extremely 'sympathique' as well as fresh and original. And, thanks to you, I believe I have come to

(18) Madeleine Milhaud, within a letter dated 13 July 1986, in response to my enquiry: 'Non! Milhaud ne conaissait pas le Quatuor de Schönberg quand il a décidé de composer sa 3ère.' Letter dated October 1986: 'Milhaud a rencontré Schoenberg à Vienne en 1922 - il venait de diriger P. Lunaire à Paris - ...'

(19) C. Jones,'Darius Milhaud', Dictionary of Twentieth-Century Music (ed. Vinton), London, 1974, pp.487-8.

appreciate polytonality. Furthermore, even though these pieces were composed between 1917 and 1922 and at places as far distant as Rio de Janeiro and Vienna, they possess such unity that I am convinced of the high quality of this composition.
I am sincerely delighted, and I thank you (20).

* * * * *

Much of Milhaud's style is shaped by his Gallic temperament, especially his belief in the priority of free, unfettered melody and his disdainful rejection of restrictive systems. Of his compatriots, Milhaud most readily identified with Erik Satie, appreciating his subtle wit and eccentricity. Both advocated delicacy and economy of musical treatment, with occasional 'biting' dissonance, and shared a sophisticated elegance so typical of French neo-Classicism. Milhaud's respect for Satie is evident from tributes in Notes sur Erik Satie and Ma Vie Heureuse and from his orchestration of the Jack in the Box (21).

Within 'Les Six', the main comparisons are with Arthur Honegger (1892-1955) and Francis Poulenc (1899-1963) and, in fact, though Honegger was an exact contemporary, he and Milhaud had relatively little in common. Although both were in essence neo-Classical, Honegger was really more Germanic in his approach. They were ideologically closest in their early years, before Milhaud's rejection of Germanically inspired late-Romanticism. Such early works include Milhaud's second and third quartets, with their intense and melancholic Romanticism,still bearing Wagnerian influence. Certainly, the string quartet was an important medium to both Milhaud and Honegger, as were large-scale 'theatre pieces', in for example Christophe Colomb (1928) and

(20) Quoted in P. Collaer/J. Galante, Darius Milhaud, p.209.
(21) Milhaud, M.V.H., Chap.23 'The Death of Erik Satie; Notes sur Erik Satie, Paris 1943, New York 1946. Milhaud also made piano reductions of Cinq Grimaces, Entr'acte, Gymnopédie and for violin and piano the Suite, from 'Morceaux en forme de poire'.

Le Roi David (1923). The only other common ground lies in a fascination for portraying 'machinery' in music. In this respect, Milhaud's Machines Agricoles (1919) and Honegger's Pacific 231 (1923) were just two works of a cult in the 1920s, which also included George Antheil's Ballet Mécanique (1925) and Airplane Sonata, works by Georges Auric, and Hindemith's unpublished Musik für Mechanische Instrumente (1926).

There is more common purpose between Milhaud and Poulenc, who shared the tonal-modal Gallic approach, though Poulenc was never drawn to exhaustive exploration of poly-tonality, nor was his style as consistently directed towards neo-Classicism as that of Milhaud. Instead, Poulenc was more partial to the frivolity and melodrama of Cocteau's ideas. Milhaud's respect for his younger compatriot is shown by the dedication of his sixth quartet Op.79 (1922). Finally, exploratory analytical work using exclusively set-theory has been undertaken on the early music of Milhaud and Poulenc, by Keith Daniel (22). However, it only really confirms that their fundamental structures are usually directed, not by sets, but by an elusively free 'modality'.

Milhaud's first two violin sonatas and first quartet were much influenced by French musicians of the previous generation: Debussy, Franck and Fauré. There is also stylistic correspondence between Ravel's quartet in F (1903) and Milhaud's fourth quartet (1918). Finally, Milhaud strongly admired the little recognised composer, Charles Koechlin (1867-1950) (23), who seemed to inspire him in his initial poly-tonal explorations.

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(22) K.W.Daniel,'A Preliminary Investigation of pitch-class set analysis in the atonal and polytonal works of Milhaud and Poulenc.'

(23) The situation has perhaps just been remedied with the appearance of Robert Orledge's scholarly study: Charles Koechlin: His Life and Works (vol.1), London, 1989.

The remaining comparisons involve composers - born or resident in the United States - who exploited Jazz, as well as aspects of the Jewish musical heritage. Together with Kurt Weill (1890-1950), George Gershwin (1898-1937) and Aaron Copland (1900-1990), Milhaud should be credited with being amongst the first to incorporate elements of true Jazz into 'classical' art-music. La Création du Monde appeared just a year before Gershwin's Rhapsody in Blue (1924). Twenty years later, Milhaud and Copland composed clarinet concertos for the great Jazz-musician, Benny Goodman. In assimilating the 'cabaret' atmosphere of the European 'Berliner Band', there is similarity between the finales of Milhaud's fifth chamber symphony (1922) and Weill's second symphony (1933) - both featuring reiterated dotted rhythms and melodic focus on clarinet. In addition to their fascination with Jazz, these composers shared a deep belief in the Jewish faith. Perhaps they felt an affinity between the traditional and melancholic Jewish song and the emotionally-charged, vocal 'Blues'; or a sense of identification with another race which had suffered persecution. Whatever the reasons behind the linkage, Milhaud's music is influenced by this Judaic context, most obviously in his solo songs and large choral works, but also in his opera Esther de Carpentras (1925).

Finally, one may suggest a parallel with the approach of an American, non-Jewish, composer: the great individualist, Charles Ives (1874-1954). Both Milhaud and Ives sought to distinguish areas of sound using 'poly-tonality' and spatial representation, illustrated in the chamber repertory by Milhaud's fourteenth and fifteenth quartets Op.291 (1948-9) (which may be played together or separately!) and Ives's early 'philosophical' piece: The Unanswered Question (1908).

* * * * *

THE ELEMENTS OF MILHAUD'S MUSIC

The idea of discussing Milhaud's music in terms of its predominant stylistic 'elements' developed from reading Ma Vie Heureuse and Collaer's biography: Darius Milhaud. The word 'element' is frequently employed in French writing on music, especially by Milhaud and Collaer, so that it seemed appropriate to use it here. However, should the term seem awkward in English, one could substitute 'tendency' or 'aspect', though these terms would lose the associated imagery of fundamental 'chemical' units. 'The elements of Milhaud's music' is an important preliminary to the specific focus on the chamber music and offers further reasoning behind the choice of chapter headings and the main content of Part II. Although the detailing of the elements is reserved for chapters 3, 4 and 5, the overall idea is discussed here. The starting point is an important statement made by Collaer and, despite reservations on the analytical validity of some comments, he has certainly captured the essence of Milhaud's approach:

> From his adolescent years to the end of his life, he conceived his artistic creation as a total entity, the various elements of which could be drawn forth at any moment for whatever purpose. (24)

This is an apposite appreciation of Milhaud's art, from a man who knew him well, the key phrases being 'artistic creation', 'total entity' and 'various elements'. 'Artistic creation' is an important preliminary and one may infer that any approach to Milhaud's music must respect this freedom and spontaneity. The main concept is of 'various elements' combined, or fused, to produce a 'total entity' and this is exactly the approach adopted in this dissertation.

Interestingly, Collaer's statement about Milhaud's overall output uses evidence from the chamber music repertory.

(24) P. Collaer, ed. J. Galante, Darius Milhaud, p.208.

'Elements' is interpreted broadly by Collaer to embrace issues of style and 'various technical resources', although there is no 'systematic development of technique'. Rather, Milhaud 'chose those elements that suited a particular expressive imperative'(25). Interestingly, Collaer does acknowledge tonal-modal elements in a middle-period work like Les rêves de Jacob (1949). He suggests that Milhaud's music is based on a 'free and universal concept of the world of sonority'. My use of 'elements' also applies to style and structure, for instance the Brazilian/Jazz-inspired element of Milhaud's music makes special use of a technical element, the Blues scale.

Across Milhaud's early works up to 1922, there is a strong sense of exploration, supported in the early chapters of Ma Vie Heureuse: 'Léo et Armand' (Chapter 3); 'Paris 1909-12' (Chapter 4); 'Le syndicat' (Chapter 7); 'La saison 1913-14' (Chapter 9) and 'La guerre' (Chapter 10). The most telling passage regarding exploration is contained at the end of Chapter 3:

> ...j'entendais une musique d'une extraordinaire liberté qu'il m'eût été impossible de transcrire. Comment l'exprimer? C'était pour moi un grand mystère dans lequel je me complaisais, comme en un refuge où mon langage musical s'élaborait dans les couches les plus profondes de mon inconscient. (26)

That this music was impossible for Milhaud to write down stresses the idea of Milhaud as apprentice and the need for further learning in order to find the solution. He sees his musical language developing in the furthest reaches of his

(25) P. Collaer, loc.cit.
(26) D. Milhaud, M.V.H., p.25: '... I heard music of extraordinary freedom which was impossible for me to transcribe. How should I express it? It was for me a great mystery in which I delighted, as if in a refuge where my musical language was taking form in the furthest reaches of my subconscious.'

subconscious mind. Perhaps most interesting is the question: 'How to express it?', which may be interpreted as referring to both musical and verbal means. The question is used to head Chapter 3, the answer gradually emerging through chapters 3, 4 and 5. From this quotation, and that of Collaer above, developed the image of an early 'melting-pot', out of which the main 'elements' emerged.

Still within the formative years, there are so many references to Milhaud's interest in Brazilian popular music and Jazz, in Ma Vie Heureuse and Etudes, that the associated music demanded its own chapter. The Brazilian/Jazz-inspired element is the first to emerge from the explorations, and is detailed in four chapters of Ma Vie Heureuse: 'Le Brésil' (Chapter 11); 'Rencontre avec le jazz' (Chapter 15); 'Etats-Unis, 1922' (Chapter 18) and 'Ballets' (Chapter 20). It was particularly for its rhythmic potential that Milhaud was attracted to Brazilian musical culture: 'les rythmes de cette musique populaire m'intriguiaent et me fascinaient' (27). His subsequent interest in Jazz delved deeper:

> Il me fallait ...pénétrer plus profondement les arcanes de cette nouvelle forme musicale, dont la technique m'angoissait encore. (28)

This quotation is appropriate in that it mentions the idea of a distinct musical form and technique: further justification for investigating the Jazz-inspired element in its own chapter. In the same way that there was one particularly apt quotation for the exploratory element, embodying a question, so too there is one for Chapter 4:

> d'éléments sonores et rythmiques absolument nouveaux...mais comment les utiliser? (29)

(27) D. Milhaud, op. cit., p.67.
(28) Op. cit., p.100. 'I had to penetrate more deeply into the mysteries of this new musical form, whose technique still baffled me.'
(29) D. Milhaud, Etudes, p.54: 'completely new elements of sound and rhythm...but how to use them?'

It is worth noting that in this quotation Milhaud refers to 'elements of sonority and rhythm', further supporting my use of the term 'element'.

The neo-Classical element is the most important to emerge from the early exploration. Again the separate chapter on neo-Classicism is justified not least because of the attention given to the concept in three chapters of Ma Vie Heureuse: 'Paris' (Chapter 13); 'Orphée de Camargue' (Chapter 22) and 'De l'opéra-minute au grand opéra' (Chapter 23). One particular quotation stands out in elucidating the neo-Classical element:

> En réaction contre l'impressionnisme des post-debussystes, les musiciens voulaient un art robuste, plus clair et plus précis, tout en demeurant humain et sensible... Après tous les brouillards impressionistes, cet art simple, clair, renouant la tradition de Scarlatti et de Mozart ne serait-il pas la prochaine phase de notre musique? (30)

The key phrases are 'more clarity and precision' (seen as a developing concern in Chapter 5, with future scope suggested in Chapter 7) and 'renewing the tradition of Scarlatti and Mozart' (indicating awareness of Classical and Baroque procedures). Finally, one may highlight the third question: whether this neo-Classical approach, influenced by the past, will represent the future of Milhaud's music: chapters 5 and 7 attempt to answer this.

So, supported by Milhaud's own writing, I argue that there are three main elements in his early music, the second and third emerging out of the first. However, in dividing

(30) D. Milhaud, M.V.H., pp.81-2: 'Reacting against the impressionism of the post-Debussy composers, musicians now wanted a clearer, sturdier, more precise type of art, which still retained its human sympathy and sensitivity... After all the mists of impressionism, wouldn't this simple and clear art, renewing the tradition of Scarlatti and Mozart, represent the next phase (in the development) of our music?'

chapters 3, 4 and 5 in this way, I am aware of the dangers of over-simplifying or distorting the overall picture: Jeremy Drake is right to warn about over-zealous categorisation. There are early pieces, e.g. the third quartet (1916), which include incipient Blues gestures, even before Milhaud's stay in Brazil. In the words of Drake, the 'influence of jazz on Milhaud's music should not be laboured precisely because the priorities are not easy to establish' (31). Nevertheless, one must examine and understand the parts, before appreciating the complex, sometimes contradictory allusions and tensions which comprise the whole. Various criteria are used in viewing works (or movements) as products of exploration, or Jazz or neo-Classicism, as illustrated by Figure 1.1. These are the criteria behind the listings in Figures 3.1, 4.1 and 5.1. Clearly, some works may satisfy the criteria for more than one element.

FIGURE 1.1. CRITERIA FOR ASSIGNING WORKS TO THE ELEMENTS OF EXPLORATION, BRAZILIAN/JAZZ-INSPIRATION OR NEO-CLASSICISM

1. Chronology. The elements of exploration, Brazilian/Jazz-inspiration and neo-Classicism are roughly chronological. The earliest works c. 1918 tend to be exploratory, works of the early 1920s may be Jazz-influenced, the latest works c. 1927 are neo-Classical.

2. Milhaud's classification of a work in his writing, e.g. those works discussed in 'Rencontre avec le Jazz' are so regarded in this dissertation.

3. Classifications used by other authors, e.g. Jeremy Drake discusses L'Abandon d'Ariane in his essay on the neo-Classical Operas.

4. Choice of title and/or instrumentation. Some titles and instrumentations are clearly indicative of a particular element (especially Brazilian/Jazz-influenced), e.g. Saudades do Brazil and Jazz ensemble instrumentation of Caramel Mou.

5. Possible literary significance, e.g. use of Classical Greek, Roman legendary themes/texts for neo-Classical works.

(31) J. Drake, op. cit., p.189.

FIGURE 1.1 Continued

6. Emphasis of main technical features, suggesting:
   (a) Chromaticism. Ill-defined and extensive forms;
   (b) Blues scale. Blues form, including riffs;
   (c) More refined modality. Compact,clearly defined forms.

In Milhaud's music, it is largely a semantic argument as to whether (as Drake argues) the Brazilian/Jazz element is an influence on neo-Classicism (32); or whether (as I would argue) an 'eclectic balance' exists between these and other elements (e.g. Jewish/French folk-song), albeit with neo-Classicism as the most important component. This neatly returns us to Collaer's initial quotation and the idea of various elements in Milhaud's music coming to the fore and then receding, as dictated by particular contexts.

At the end of this section, it is useful to explain the basic nature and effect of Milhaud's music, in which lyrical melodies are predominant. Several melodies tend to be superimposed in loosely imitative counterpoint, with their own modal identities. The overall effect is usually that a single pitch centre emerges, dictated by the choice of bass line. This pitch-centre may be reinforced by chromatic encirclement (e.g. F#,G; Ab,G reinforcing G). Varying degrees of tension may exist within the modality, affected by chromaticism or by the tritonal polarities, characteristic of octatonicism. Bi-modality is also a localised source of conflict. Texture is most often 'light' and polyphonic, with doubling between the bass and uppermost voice. Repetitive and sequential patterns are important. Metre tends to be regular, with several rhythmic patterns in operation; there is a fondness of 6/8 metre with lilting rhythms and occasional syncopation. Milhaud often enjoys working in miniature, with ternary structures predominant. The vast amount of music generated by these means spans

(32) J. Drake, op. cit., p.186 ff.

three compositional periods: the early period (appproximately 1911-1930), the middle period (1930-early 1950s) and the late period, revitalising some early ideas (early 1950s-1973). This interpretation of the periods is largely in accordance with that of Drake (33).

THE PLACE OF THE EARLY CHAMBER MUSIC IN MILHAUD'S OUTPUT

Many of Milhaud's chamber works have already been mentioned in the section on historical context; nevertheless it is appropriate to highlight the place of the chamber music within his output. Together with opera, chamber music is significant throughout Milhaud's long composing career, with the three periods running from the first violin sonata Op.3 (1911) to the clarinet sonatina Op.100 (1927); the eighth quartet Op.121 (1932) to the eighteenth quartet Op.308 (1950-51) and the first string quintet Op.312 (1951) to the wind quintet Op.443 (1973). The string quartets can be seen as a 'back-bone' supporting the total output, spanning almost forty years (1912-1950). The designation 'chamber music' includes eighteen string quartets, five string quintets, two wind quintets, trios, a sextet and septet, six chamber symphonies, several chamber operas, concert suites, transcriptions of dramatic works and ballets, sonatas and sonatinas (especially strings) and works for mixed chamber ensemble, with and without voice. There are also numerous solo songs and piano pieces, though these cannot be strictly defined as 'chamber music'.

The early chamber music (1917-1927) forms an important, self-contained repertory. 1917 marks the composition of the first chamber music in Brazil, and this year is generally accepted as that of his compositional maturity. 1927

(33) J. Drake, op. cit., pp.2, 318, 362.

represents a clearly defined finishing date, since he wrote no more chamber music for a period of five years, having been temporarily distracted by the demands of 'grand opéra'. The early chamber music consists of seven quartets, six chamber symphonies, Suite de Concert: La Création du Monde and other transcriptions of dramatic works e.g. Le boeuf sur le Toit, chamber operas, two early violin sonatas, two wind sonatinas, and mixed chamber ensemble with voice.

There were additional reasons for choosing the early chamber music. Firstly, a selection of varied early chamber works would be representative of the typical diversity within Milhaud's output of the 1920s. Secondly, under the general 'umbrella' of early chamber music, it would be possible to prove my conviction that stylistic and technical traits may be traced across a range of genres, by means of analysing specific works. Although it might have been easier to select simply the six chamber symphonies, or, as has been attempted before, the quartets (34), or sonatas (35), this seemed less original and less representative of the varied imagination of this musician in his younger years. A third reason for concentrating on early chamber music is that these works are arguably amongst Milhaud's finest, even taking into account works beyond 1930. As with other composers before him, Milhaud's innermost sentiments are often reserved for expression within the intimate medium of chamber music, especially the string quartet. The final reason for choosing the chamber music is that since chamber works form the 'back-bone' of Milhaud's composition, study of this area may be regarded as representative of Milhaud's general stylistic and technical development.

(34) P.W. Cherry, The String Quartets of Darius Milhaud, University of Colorado, 1980.
(35) P.J. McCarthy, The Sonatas of Darius Milhaud, Catholic University, 1972.

SELECTION OF EIGHT WORKS FOR ANALYSIS

After much preliminary study, eight works were selected as representing a balanced diversity of genre. It was practical to contend with this number since the analyses were selective in their brief, the primary concern being with style and pitch structure. A brief rationale for the inclusion of each work is given (in chronological order) with further detail in Analyses 1-8.

The 'Funèbre' from the fourth quartet (1918) was selected, because it was critical that the string quartet genre be represented. This quartet provides a useful starting point for analytical discussion, as one of Milhaud's first mature works, composed in Brazil. The fifth, sixth and seventh quartets were also analysed for the overall perspective.

Machines Agricoles (1919) is one of two 'Catalogue Works', the other being Catalogue de Fleurs (1920). It seemed appropriate to represent these somewhat bizarre works, as an example of Milhaud's unconventional approach. This work represents the category of mixed chamber ensemble with voice. It was analysed in its entirety, though for reasons of space only the third song is included here.

Saudades do Brazil (1920) was chosen as one of the best illustrations of the influence of Brazilian music. The strength of the popular allusions justified including a work for solo piano. The piece: 'Ipanema' was selected as it facilitated comparison with an analysis of K.W.Daniel. Other eclectic works were also studied: L'Homme et son Désir, Le Boeuf sur le Toit, Caramel Mou and Trois Rag-Caprices.

It seemed important to include one of Milhaud's chamber symphonies. Numbers four to six all reward study, but the fifth (Dixtuor d'Instruments à Vent) (1922) was singled out

because of its experimental nature. The piece offered an ideal context in which to apply Meyer's 'Implication-Realisation'. Space permitting, the fascinating sixth symphony would also have been included.

I wished to include an example of Milhaud's songs, whilst avoiding reference to the self-contained repertory for voice and piano, hence the discussion of Quatre Poèmes de Catulle (1923), for voice and violin. The whole set was analysed in depth though there was only space to accommodate examination of one song within the dissertation.

La Création du Monde (1923/26) is the central work of the study: it is amongst Milhaud's most successful and popular pieces and the largest structure to be analysed. It was attractive since there were two versions to compare and since it represented the ultimate in Jazz-inspired composition.

In order to maintain balance between types of chamber music, it was imperative to represent chamber opera, the opera repertory being significant in its own right. The idea of a trilogy of 'opéras-minute' was attractive, hence the analysis of the central piece: L'Abandon d'Ariane (1927). This choice also allowed comparison with the work of Jeremy Drake. The other 'opéras-minute' were also analysed and a brief study made of Les Malheurs d'Orphée (1924).

Finally, the Sonatine pour Clarinette (1927) was selected, because it was appropriate to represent sonata-type composition. In order to ensure that this sonatina was typical, the Sonatine pour Flûte (1922) and earlier violin sonatas were also studied. It was also imperative that the clarinet sonatina be included, since this was the last chamber music composed before 1930, so providing a logical finishing point.

CHAPTER 2

IN PURSUIT OF AN ANALYTICAL APPROACH

The pursuit of an appropriate analytical approach to the music of a composer who denounced rigid theoretical systems had best begin by examining closely the most important contributions made to the subject by the composer. Only then does it seem wise to assess other analytical techniques applied to his music and contemporary music in similar styles and thus determine the best approach for this study.

POLYTONALITE ET ATONALITE (1923)

Milhaud's article on 'poly-tonality' and atonality warrants serious consideration and critical scrutiny, even if the term 'poly-tonality' is regarded today as a rather dubious theoretical concept. This is because, whatever one's theoretical stance, Milhaud did compose by superimposing melodic strata of conflicting tonalities, so that his poly-tonality is a result of contrapuntal encounter. However, such compositional procedures may be very different from analytical ones. Milhaud commences by defining 'poly-tonality' and 'atonality' and suggests that, far from destroying fundamental musical principles, they make new harmonic and contrapuntal domains available to the composer. In his opinion, the principle of poly-tonality was first stated when canons at other than the octave were allowed (1).

Milhaud argues that if two lines of a canon are read separately, they can imply a parallel harmonisation in two different keys and that the 'single-key effect' (2) which

(1) D. Milhaud, 'P.A.', p.30.
(2) 'Le sentiment unitonal'. Loc. cit. Compare with Stravinsky's 'complexe sonore'.(See also p.46, note 9.)

results from listening to the canon lies in the limits imposed by the laws of two-part counterpoint and harmony. He perceives a 'tonal independence of counterpoint', with tonalities superimposed, even in Bach's music. The simultaneous unfolding of several tonalities would be highly contentious and in Schenkerian terms impossible, yet Milhaud's suggestion of a 'single-key effect' is plausible. He mentions the theoretical problems which arise when 'fixed foreign notes' included in a chord do not resolve. Again he is forced to accept the idea of tonal superimposition, since he is not convinced by regarding such pitches as appoggiaturas without resolution. Working to this premise, his ensuing approach is unarguably methodical as he tabulates all combinations of two keys (or triads) embracing inversions and major/minor modes. Figure 2.1 uses set-theory to distinguish the identities of the 'single' chordal sonorities that he obtains, though this reduces them to atonal collections and reveals the inversional equivalence:

Figure 2.1

I	II	III	IV	V	VI
Db	D	Eb	E	F	F#
C	C	C	C	C	C
(6-Z19)	(6-33)	(5-32)	(5-21)	(5-27)	(6-30)

VI	VII	VIII	IX	X	XI
F#	G	Ab	A	Bb	B
C	C	C	C	C	C
(6-30)	(5-27)	(5-21)	(5-32)	(6-33)	(6-Z19)

Although Milhaud considers two simultaneous keys, he expresses each combination as a single entity. The 'Pétrouchka chord' at the end of the second tableau of Stravinsky's ballet is explained as chord VI of his scheme. The superimposition of D and F# major triads in Debussy's 'Ondine' from the second book of Préludes, produces chord IV. Bartók's first of 14 Bagatelles Op.6. (1908) uses chord

VII, with minor/minor modal combination, as in 'B' of Figure 2.2:

Figure 2.2

A	B	C	D	TYPE
MAJOR	MINOR	MINOR	MAJOR	TONALITY/TRIAD 1
MAJOR	MINOR	MAJOR	MINOR	TONALITY/TRIAD 2

Milhaud offers alternative interpretations of a certain passage from Ravel's Sonata for violin and 'cello: firstly as a progression of eleventh chords and secondly as a bi-tonal succession of chord XI, with modal combination 'D' (3). Later in the work, he identifies modal 'mixture' in the 'cello part based on F: 'tantôt majeur, tantôt mineur' (4). 'Mélange', or mixture, is an important concept for later chapters of this dissertation, especially concerned with the Blues scale.

Milhaud makes the case for bi-tonality more plausible by distinguishing between different types of harmonic context and cautioning against illusory types of bi-tonality. He observes that the apparent existence of independent tonalities may be illusory because one tonality is only functioning as a prolonged pedal point (5). He views repeated chords, or melodic figures (often developed into ostinati in his own works), in this way. His 'monotonal' illustration is from Satie's Parade. A second illusory type involves the momentary introduction of 'foreign notes' over a pedal, where the effect is a prolonged 'échappée', yet still not bi-tonality. He demonstrates this in a section from Poulenc's first Mouvement Perpetuel. Milhaud thus argues for different types and, possibly, levels of bi-tonality .

(3) D. Milhaud, op. cit., p. 34.
(4) Op. cit., p. 35.
(5) Loc. cit. I consider that this is most commonly the case, e.g. in interpretation of part of Milhaud's third symphony: Figure 5.8 in Chapter 5, p.234.

This 'travail théorique' is applied to chords of three keys, so where there were 11 different combinations for two keys, there are 55 for three keys, together with eight 'modal' possibilities of expression. Again, Milhaud considers chordal inversions, though whether these would be so perceived by the listener is another matter. He observes that a 'tritonal' chord of nine pitches, made of triads C, Db, and D majors, contains those of seven other keys: F,f,f♯,a,A,db and d. He comments on the richness and vast possibilities so produced, though surely these observations reduce the case for perceiving the original three tonalities independently. Presumably, he would argue that these chordal abstractions have the potential for extension and thus prolongation. Milhaud seems to suggest that this method could serve as a basis for the analytical study of different musical styles.

As the ultimate extreme, Milhaud imagines the superimposition of triads on all twelve chromatic pitches. He claims that the simplest arrangement would be by successive intervals of a fourth or fifth. Quartal and quintal harmony certainly suggests an area of common ground with Bartók and Hindemith (6). Some valuable comments are made about twelve-note chords:

> Here, all the keys are found united and it is as if there were only one of them: 'polytonality' encroaches on the domain of 'atonality', because a melody constructed on the notes of this chord can utilise absolutely any note and thus escape from tonal association (7).

This suggests that it could be appropriate to identify a sound by a single term of reference, possibly by the adaptation of set-theory, when the music 'escapes from tonal

(6) Such chords are common in Milhaud's early music: 1917-1922.
(7) D. Milhaud, op. cit., p.38.

association'. Milhaud is most enthusiastic about the expressive possibilities afforded by this 'limitless domain' of poly-tonality:

> The expressive ladder thus finds itself considerably extended, and within the simpler domain of dynamics, the use of polytonality adds more subtlety and sweetness to 'pianissimos', and a more affected and forceful sound to 'fortissimos' (8).

The phrase: 'force sonore' may again yield areas of common ground with Stravinsky's 'complexe sonore' (9) and with Hindemith's concept of a chordal tension-theory (10). Milhaud continues by identifying two types of genuine poly-tonality: firstly harmonic (by chordal superimposition) and secondly contrapuntal (by melodic superimposition) (11). This second type accords well with his compositional practice, especially in chamber music, and to do justice to his music, any theory must acknowledge that the first priority is melody, whether single or multi-layered. Milhaud sees the poly-tonal, layered approach as particularly suited to the medium of the string quartet and other small ensembles. He quotes from his third chamber symphony, perceiving the six instruments as proceeding in five keys, at least from the compositional perspective (12). However, there are three bars where even the composer does not assign a tonality, but resorts to parentheses.

Usually, Milhaud finds that poly-tonal, diatonic counterpoint produces, vertically, 'conglomerations of notes which cannot be analysed and where the harmonic result is

(8) D. Milhaud, op. cit, p.38.
(9) 'Sound-complex': Stravinsky, Poetics of Music, English translation, Cambridge, Mass., 1947, pp.33,36.
(10) Tension-theory: D. Neumeyer, The Music of Paul Hindemith,'Harmonic fluctuation',pp.31,34;60-1;115-121.
(11) D. Milhaud, op. cit., p.39.
(12) For a comparative interpretation of this passage, see again Figure 5.8 in Chapter 5, p.234.

atonal' (13). It is unfortunate that he did not wish to envisage any vertical system of analysis. With due respect to his views on the supremacy of the contrapuntal perspective, any comprehensive analysis must embrace the harmonic perspective, since this is likely to aid understanding of motivic patterning,procedure and coherence.

Whether or not one agrees with the theoretical existence of poly-tonality, Milhaud's assertion that combined scale systems, with their vast scope, can produce music of clear individual identity is indisputable. Concluding the first part of his article, he gives perhaps the 'raison-d'être' for this present analytical study:

> It would be interesting to study all the forms that polytonality assumes in the works of the principal contemporary composers (14).

This is probably the nearest that he comes to suggesting a relationship between theory and practice.

Milhaud then mentions the whole-tone scale system, centred on the idea of the augmented fifth chord. He sees this as excluded from diatonic tonality and poly-tonality, because of its lack of semitones and perfect fifths; yet equally excluded from atonality since the latter is derived from chromaticism. He dismisses the resource as very limited because all is based harmonically on one chord and melodically on six pitches (15). He seems to overlook the fact that there are two distinct whole-tone collections a semitone apart and that there may be a role for chromatic, 'foreign' pitches within a given collection.

(13) D. Milhaud, op. cit., p.40.
(14) Loc. cit.
(15) Loc. cit.

In the second part of his article, Milhaud defines atonality as:

> that which escapes from tonal association as much by the character of its melodic lines as by harmonic conglomerations which result from superimposition (16).

For the possible origins of atonality, Milhaud returns to a dubious premise propounded earlier, that whereas polytonality is essentially of diatonic origin, atonality is rooted in chromaticism. The fallibility, or at least oversimplification, of this reasoning need not detract from the many useful ideas elsewhere. Milhaud discusses the role of the dominant-seventh chord, as a possible starting point for chromaticism (17). He considers the dominant-seventh as a 'movement in progression' towards a second chord. In turn, that second chord becomes the dominant of another, (i.e. circle of fifths), until one arrives at:

> a progression of dominant-sevenths, the departure-point of chromaticism and the first step towards atonality.

Milhaud searches for common ground between atonality and polytonality, arguing that occasionally the encounter of atonal lines, constructed on any of the twelve chromatic pitches, produces a type of tonality, when viewed vertically. The 'tonality' may be monotonal or poly-tonal - not in the sense of superimposed keys, but as the result of contrapuntal movement which produces seventh, ninth, eleventh, or thirteenth chords, from a superimposition of foreign notes by means of added thirds. He also mentions major, minor and augmented triads, produced by the same

(16) D. Milhaud, op. cit., p.41.
(17) One may compare Milhaud's view of the role of the dominant-seventh with that of an analyst such as van den Toorn, who considers the chord in detail in a neo-classical context: The Music of Igor Stravinsky, Chapter 11: 'Octatonic "Progressions": The (0,4,7,10) "Dominant-Seventh" Complexes', p.323 ff.

means. Such examples of chords will be isolated and nothing in what precedes or follows will justify a particular chord in terms of tonal function (18). Thus, he establishes another type of poly-tonality, using literary images likening musical structure to architecture, 'construite' and 'l'édifice harmonique', in a manner typical of Hindemith.

The first example is from Honegger's l'Horace Victorieux, where an atonal double-bass solo is heard against chords of added thirds, sevenths through to thirteenths. The second example is from the first of Schoenberg's 3 Pieces for Piano Op.11. In bars 3-4, Milhaud identifies a chromatically descending upper line, harmonised by triads of d and c minor with augmented chords of G and Gb, sustained by an inner pedal on F and all founded on an atonal bass-line (19). He asserts that the last six bars of the piece cannot be analysed, since they do not subscribe to any imaginable diatonic combination. Certainly, he is correct that tonal analysis would be meaningless. This stance contrasts with that of Hindemith, who attempted unconvincingly to impose a tonal framework on one of Schoenberg's later works (20). In Milhaud's opinion, the success of atonality depends on enlarging its means of expression, possibly by inclusion of quarter-tones, as in Szymanowski's Mythes, or Aloïs Hába's string quartet. Clearly, he is aware of contemporary techniques and compositions.

In conclusion, Milhaud declares that the poly-tonal and atonal approaches are not 'arbitrary systems'. Thus, he refers to 'system', though it is not clear whether he condemns the concept entirely, or only its 'arbitrariness'.

(18) Milhaud is well aware of non-functional tonality, an important concept in analysis of his own music.
(19) D. Milhaud, op. cit., p.42.
(20) P. Hindemith, Craft of Musical Composition, I., pp.217-8. (Analysis of Klavierstück, Op.33a).

He advocates the implementation of complementary technical studies, in order to appreciate connections between the domains of poly-tonality and atonality. Despite their opposed origins these domains occasionally unite, or at least overlap (21). Milhaud stresses his melodic priority and, invoking the concept of 'essential melody', argues that:

> what determines the polytonal or atonal character of a work is not so much the compositional procedure, but the essential melody which contains the source, and which comes from the very 'heart' of the composer....it is this absolute organic necessity of the initial melody that prevents these procedures from congealing into an otherwise 'still-born' system (22).

This concept of a 'still-born' system is further evidence of Milhaud's distrust of excessive strictness. Undoubtedly, any workable system must allow flexibility. He adds that: 'the whole life of a work depends entirely upon the melodic invention of its composer' and that poly-tonality and atonality exist merely 'to provide a greater field, richer means of composition, a more complex expressive scale', for the 'sensibility, imagination and fantasy' of melodic invention (23). Melody is the source of Milhaud's inspiration and poly-tonality and atonality are simply the means to a more varied and subtle melodic goal.

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(21) D. Milhaud, op. cit., p.44.
(22) Loc. cit.
(23) Loc. cit.

CRITIQUES OF MILHAUD'S ARTICLE AND ANALYSES OF HIS MUSIC

The work of five writers who reviewed Milhaud's article and/or analysed his music will now be assessed. The earliest review is by Boris de Schloezer, published two years after Milhaud's article (24). He identifies the essence of Milhaud's style as 'le sens d'ordre', 'le goût des formes élégantes', countered by 'son extrême exubérance', and regards him essentially as a classical figure. He points out two distinct melodic types in Milhaud's music: short, fragmentary motives, sometimes mere 'dessins rythmiques' and fully shaped, traditional melodies. Clarifying types of poly-tonality, he explains that rival tonalities are either 'absorbed' or 'affirmed' by cadence and that 'polytonalité réele' exists only where there is polyphony. This notion of cadential absorption or affirmation is useful. Boris de Schloezer also refers to the plausible idea of polymelodic structure. In conclusion, he stresses association with Stravinsky: 'Milhaud est, après Stravinsky, la nature musicale la plus riche, la plus puissante de notre époque' (25).

The second review is by Paul Collaer, contained in 'le langage' within the biography (26). He stresses Milhaud's debt to Charles Koechlin and asserts that Milhaud's idea of contrapuntal superimposition is hardly more than a matter of submitting to distinctions of consonance and dissonance. This search for patterns of consonance and dissonance, and their polarised relationship, is definitely a valid approach to Milhaud's music and connects again with Hindemith's

(24) B. de Schloezer, 'Darius Milhaud', La Revue Musicale, March 1925, pp.261-276.
(25) Op. cit., p.274.
(26) P. Collaer, ed. J. Galante, Darius Milhaud, 'The Language', pp.39-52.

tension-theory. Like Boris de Schloezer, Collaer classifies contrapuntal contexts, distinguishing between general polyphonic expression and a more specific 'jeu polyphonique', or polyphonic 'device'. This leads to discussion of Milhaud's affinity for fugue in Les Euménides, La Création du Monde and Christophe Colomb.

Collaer's weakness is that, in attempting to cover every aspect, he generalises and regards fastidiousness in discussion of Milhaud's music as undesirable; whereas it is this fastidiousness that Milhaud's music deserves but has rarely received. Difficult issues in Milhaud's music need to be confronted, not avoided. More positive contributions are made on Milhaud's approach to poly-tonality and word-setting. Collaer suggests that the demands of putting across contrapuntal complexes lie behind Milhaud's habitual use of simple, regulated rhythms (excepting his Latin-American and Jazz-inspired works). Choice of instrumentation affects the approach to poly-tonality, for example, Milhaud's piano textures seldom exceed a 'bi-tonal' expression. His dramatic approach to word-setting is not concerned with the isolated value of each word, but with the overall sense. Collaer describes: 'a personal, lyrical declamation, based upon the (collective) values of duration and of accentuation of the syllables' (27). This is a typically French approach which will be considered in analyses of Machines Agricoles and Quatre Poèmes de Catulle.

Collaer emphasises that Milhaud's music is primarily melodic and that harmony results from the interaction of superimposed contrapuntal lines, supported by occasional 'structural' chords, similar to Hindemith's 'pillar' chords. Finally, Collaer comments about Milhaud's remaining distant from predetermined schemes or systems, cautioning against inflexible analysis.

(27) P. Collaer, op. cit., p.263.

The third review is by Jeremy Drake, contained within The Operas of Darius Milhaud (28). Drake consistently endorses modality, so when discussing Milhaud's article, he opts not for poly-tonality, but poly-modality, defined as:

> the use of two or more modes simultaneously, though Milhaud always used the term polytonality, and it must be understood that the term polymodality may apply as much to combinations of the same mode at different pitches (29).

Drake explains that Milhaud's article is the result of his research into polytonality nine years earlier (1914-15), as stated in Ma Vie Heureuse (30). Later, when Milhaud describes the ultimate poly-tonal superimposition of twelve chromatic pitches, saying that 'a melody constructed from the notes of this chord will... avoid any feeling of tonality' (31), Drake responds that, though the concept is valid, the example of superimposed fourths and fifths is not because:

> it is the disposition of a composite chord into bands of common chords that is essential for the effectiveness of polytonality (32).

With reference to Milhaud's comments about vertical agglomerations having an atonal effect and being unanalysable, Drake argues that this is only theoretically and not practically the case because:

> the horizontal momentum is stronger than the vertical weight: the melodies are heard and not the harmony (33).

(28) J. Drake, O.D.M., pp.221-224.
(29) J. Drake, op. cit., p.221.
(30) D. Milhaud, M.V.H., p.59.
(31) J. Drake, op. cit., p.223; D. Milhaud, 'P.A.', p.38.
(32) J. Drake, loc. cit..
(33) Op. cit., p. 223.

I am unconvinced on this point, believing that the listener has a melodic and overall harmonic perception of Milhaud's music and that there is a case for fundamental bass. Drake usefully mentions characteristics of Milhaud's chamber music prior to the period of poly-tonal research, including the early quartets (1912, 1914-15), suggesting that this music is poly-chordal rather than poly-tonal. He views the chamber music as stylistically revealing and relevant to the discussion of opera, providing further support for chamber music as an important genre and for the association between chamber music and opera in Milhaud's music.

* * * * *

The Operas of Darius Milhaud has necessarily been mentioned in the Introduction and Chapter 1, but this is the appropriate place for the main review of an important source of stylistic (and some technical) ideas. Although Drake uses descriptive, not graphic analysis, his book includes much historical detail and represents recent research on a subject still short of scholarly assessment. The most applicable part is Chapter 9: 'The neo-classical operas II: Essay in stylistic analysis' divided into sections on: Rhythm; Counterpoint; Harmony; Polymodality (including the review of Milhaud's article); Phrase Structure and Form (34). This essay has stimulated the comparative view of L'Abandon d'Ariane in Analysis 7. Of primary importance are observations on pitch-structure and modality, but Drake rightly begins his essay by explaining the rhythmic parameter, considering that the flavour of Brazilian music affects, however slightly, most works between 1917 and 1973. The complex rhythms inspired by Brazilian music often produce 'polymetricality' (i.e. two or more metres operating simultaneously), but not 'polyrhythm'. This is certainly

(34) J. Drake, op. cit., pp.186-241.

true, though Milhaud rarely employs conflicting time signatures: rather he opposes different lengths of ostinato. Drake also stresses the modal aspect of Milhaud's music, commenting on:

> an almost total absence of major and minor key relations, of tonal formal organisation, of harmonic functionality, of modulation, even of a perfect cadence. The minimal exceptions to be found are of only local relevance and by no means decisive (35).

However, this is not to say that there is no place for cadential gesture and modulation. Later, Drake acknowledges cadence within modality, but stresses its different function:

> Milhaud's cadences do not resolve tonal or harmonic tensions, or articulate tonal movement (36).

Drake states that 'modulation is quite alien to Milhaud'(37) and that 'there is no possibility of being able to prepare for the new mode as there is in tonality of preparing a new key'. I would argue that although Milhaud does not to use schemes of key relation, one may identify modulatory passages (in the original sense: i.e. of 'mode'), with pivotal motivic constructions and more rarely pivotal chords (38). It is possible to use 'dominant preparation' (or emphasis upon a new supertonic) to pave the way for a new modality. Clearly in some instances, 'modulation' is simply a matter of emphasis within a pitch collection. The only way to distinguish between the Aeolian mode on C and Lydian on Ab, (pitches Ab Bb C D Eb F G Ab Bb C), would be that the first has a final on C and the latter on Ab. However, generally there is scope for 'modulation' within modality, since one may move from one mode to the same mode

(35) J. Drake, op. cit., p.201.
(36) Op. cit., p.214.
(37) Op. cit., p.205.
(38) See Chapter 6, p.290, of this dissertation.

with a transposed 'final'; or between many different modes on different 'finals'. There is further discussion in the technical outline of Chapter 5.

An important concept used by Drake in discussion of neo-Classical modality is 'inflectional polyvalency', which he explains as 'the possibility of substituting one inflection (be it #, ♭ or natural) for another', whilst preserving the 'diatonic skeleton' (39). Inflectional polyvalency most commonly affects the third scalic degree. He also uses interesting, if controversial, definitions of modal consonance and dissonance:

> Any interval between two counterpointed notes is consonant if both notes belong to the same mode; if they belong to different modes they are dissonant, though polytonal counterpoint tends to create its own polytonal norm of consonance (40).

I dispute that there is no dissonance within a single mode, because there can be just the same intervallic combinations of seconds, fourths and sevenths as between two different modes. It is also not clear from this what role chromaticism plays in dissonant conflict. A better solution might be to envisage two distinct types of dissonance: 'internal' i.e. within the diatonic ingredients of a single mode and 'external' i.e. beyond a single diatonic mode, including chromatic and bi-modal contexts.

Drake explains that many typical tonal features are absent from Milhaud's modal harmony. The equivalent of the 'tonic' chord is used less emphatically, often disguised by added notes, which function as appoggiaturas. Chord V rarely functions as the 'dominant' and loses much of its cadential function. This is compensated for by increased use of chords

(39) J. Drake, op. cit., p.206.

other than I and V, for instance the substitution of chord II for V in passages of 'vamping'. This accords with my own observations (e.g. Analysis 4); and one may add that often the final chord of a piece is a fusion of chords I and II. Milhaud's harmony can produce a static effect, because of the use of unchanging ostinati. Interestingly, Drake makes special note of a surface chordal formation, which I had observed independently in several works of the 1920s: (F#,G,A#,B), set (4-7). He finds little 'polymodality' in the neo-Classical operas, concluding that contrapuntal polymodality is best suited to chamber music. I would argue that genuine 'bi-modality' (never mind 'poly-modality') is rare even in the chamber repertory. Although Drake uses 'polymodality', he occasionally refers to bi-modal chords (41) and acknowledges the opposition of 'black' notes in the bass against 'white' in the treble, i.e. chromatic complementation (42): this proves to be a useful concept in Analysis 7.

Drake observes that a melody is often accompanied by dissonant harmony (i.e. that of a different mode), thus illustrating 'polymodality' (more accurately 'bi-modality') and that there can be 'shifting of ... two halves of a chordal, or chordal and melodic entity, harmonically out of phase with each other' (43), relevant in Analysis 8. Polymodality is a developing aspect of Milhaud's style:

> Integration of polymodality into a general harmonic style is a typical feature of Milhaud's middle period (44).

Drake also mentions Milhaud's fondness for fugue (discussed in Chapter 6 of this dissertation), remarking that this is curious since fugue is rooted in tonality, but explaining

(41) J. Drake, op. cit., p.230.
(42) Op. cit., p.228.
(43) Op. cit., p.216.

its usage as a result of textural considerations. Observations are made about 'phrase' in Milhaud's neo-Classical style, (relevant to Chapter 5 of this dissertation). Phrase contributes to patterns of melodic style and formal construction. Drake identifies 'perfect and self-contained' phrases, and more often imperfect ones 'implying a continuation: a completion or second complementary phrase'. Thus, phrase can be 'complemented, diminished, augmented, varied and generally manipulated to construct much larger forms' (45).

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Apart from American dissertations by Cherry, McCarthy, Morrill, Bobbitt and Baskerville, there are noteworthy analyses of Milhaud's early music by Ruth Zinar and Keith W. Daniel. Zinar discusses 'poly-tonality' in Les Euménides (1917-22), the third of the early l'Orestie trilogy (46). She views pages 23-24 of the full score as four tonal streams or strands, which are reduced to one, in parallel with the text, as in Figure 2.3:

FIGURE 2.3

B	Bb	A	G#	G	F		CHORDS
Db	D	Eb	E	F	G	F#	
G	F	G	G	G	F		
F	G	F	F	F	G		
Db	D	Eb	E	F	F	F#	BASS
4	4	4	4	2	2	1	NO. OF KEYS
'All the streams.....then one... pure.'							TEXT

The finale of this opera consists of twelve sections, which Zinar considers to form a poly-tonal progression. The first section begins with four keys: Db,E,G,Bb, expanding to six:

(44) J. Drake, op. cit., p.230.
(45) Op. cit., p.231.
(46) R. Zinar, Greek Tragedy in Theatre Pieces of Stravinsky and Milhaud, New York University, 1968.

Db,G,A,B,F,Eb in the sixth and seventh sections. They in turn are gradually reduced to two keys: B,C# for the climax of the finale. Zinar's perspective is interesting as a starting point, but says little about actual sound. Her approach to poly-tonality is logical, if uninspired and conventional. However, she briefly acknowledges patterns of consonance and dissonance, and 'tritonal relationships in bitonality', as being dramatically associated with ideas of disturbed emotion and revenge: an example cited is in Agamemnon, (page 33 of the score), with Dorian modes on tritonally opposed pitches of A and Eb. This is perhaps the earliest acknowledgment of modality in Milhaud's music.

K.W. Daniel adopts the diametrically opposed, set-theoretic approach for analyses of L'Homme et son Désir and Saudades do Brazil (47). This article is perhaps the only published application of pure set-theory to Milhaud's music. Daniel applies the full range of techniques: pitch-class sets, complements, Z-relations, Rp, R1, and R2 similarity relations. The set-theoretic approach can be advantageous in providing a concise vocabulary of pitch groupings, which 'supersedes the sometimes naive interpretation of superimposed tonalities' (48). Thus, 'bi-tonal' sounds are identified and classified in a single term of reference. Set-theory can also assist in corroborating fragmentary, surface gestures.

However, the problems, as Daniel admits, are many. Although set theory enables one to approach the vertical perspective, the horizontal by its diatonic nature is largely ignored. There is only superficial resemblance to the atonal music

(47) K.W. Daniel, 'A Preliminary Investigation of Pitch-class Set Analysis in the Atonal and Polytonal Works of Milhaud and Poulenc', In Theory Only, vol. 6, no.6, September 1982, pp.22-48.
(48) Op. cit., p.47.

of the Second Viennese School and Milhaud's music seems rather simplistic and naive in comparison. Set-theory usually only elucidates at surface level, where structure may already be evident. Variety in Milhaud's music is achieved by sequential repetition, partial transposition, subtle alteration and reversal of ostinati patterns, none of which comes across through set-theoretic analysis. Finally, many disparate sets are produced, most of which must be discounted. There are weaknesses in Daniel's working: criteria behind 'creative segmentation' are not adequately explained. The atonal 'label' is used loosely: 'Milhaud worked frequently and freely in an atonal idiom' (49), though Daniel later concedes there is little 'genuine atonality'. He claims his choice of works to be representative of Milhaud's output, though he considers only the Brazilian/Jazz-inspired repertory, excluding some of the most appropriate experimental material, e.g. fourth quartet, Machines Agricoles and the fifth chamber symphony. The extracts selected are also rather brief.

Daniel's strengths lie in observing processes of stratification: 'successive layering' of ostinati. The most successful analyses are from Saudades do Brazil: 'Botafogo', 'Copacabana' and 'Ipanema'. Some prominent sets from Saudades recur in other works, especially 'diatonic' ones, e.g. (4-23) which Daniel lightheartedly refers to as the 'I got rhythm' tetrachord! Like Zinar, Daniel is sensitive to the 'simultaneous tonal and/or modal gestures' that structure Milhaud's music, most strikingly in the decade 1915-1925. This usage of set-theory is limited in analysis of poly-tonally conceived music, but has a role as a secondary, surface level, tool.

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(49) K.W. Daniel, op. cit., p.23.

GENERAL ANALYTICAL THEORY WITH RELEVANCE TO MILHAUD'S MUSIC

The remaining literature surveyed in pursuit of an approach to Milhaud's music is concerned with analyses of works by Stravinsky and Hindemith.

Arthur Berger's pioneering article seeks a working-theory for music that is 'centric', but not tonally functional (50). He suggests referential collections and orderings of pitches, 'simultaneities' instead of 'chords' and pitch 'priority' of the 'first', or 'second order'. The term 'modality' is introduced, though historical association is avoided by designations such as 'E-scale on A'. Berger also mentions 'hybrid' minor formations, and the octatonic collection, with its (0,3,6,9) partitioning, transpositions, and rotations, which proves so successful in expaining the second tableau of Pétrouchka. [As Berger acknowledges, Stravinsky (like Milhaud) stated that he 'conceived the music in two keys' (51).] Berger considers the 'filtering-out' of pitch content not referable to the octatonic collection, supported by reference to timbre and acoustics, and examines interaction between diatonic and octatonic scales. He declares that the difficulty in analysing works of Stravinsky (and Milhaud) is that:

> confronted with broadly tonal issues such as these, the critical question is... where to draw the line between an intervallic, incipiently serial, 'non-tonal' interpretation of this music, and the tonal bias that obviously governed its conception (52).

Twenty-five years on, the dilemma persists!

(50) A. Berger, 'Problems of Pitch Organisation in Stravinsky', Perspectives of New Music, vol.2, no.1, Fall-Winter 1963, pp.11-42.
(51) I. Stravinsky, and R. Craft, Expositions and Developments, New York, 1962, p.156.
(52) A. Berger, op.cit., p.41.

The octatonic discussion is continued by van den Toorn (53): particularly apposite are his analyses of 3 Pieces for String Quartet (1914), Histoire du Soldat (1918), Les Noces (1917), Symphonies of Wind Instruments (1920) and the Octet (1923), and chapters on the 'Neo-classical Initiative', 'Minor-Major Third Emphasis' and 'Dominant-Tonic Relation'. Criticisms have been voiced about van den Toorn's book: that it should more accurately have been titled 'The Octatonic Stravinsky' (54), that most analyses are on a small scale and that he is primarily concerned with unordered collections. However, such criticisms are not really my concern, which is simply to ascertain which aspects may assist in analysis of Milhaud's early music. Octatonicism seems most relevant in Milhaud's output between about 1917 and 1922.

Van den Toorn compares diatonic 'progression' and octatonic 'oscillation', and identifies an octatonic Model A (0,1,3,4,6,7,9,10) for Stravinsky's neo-Classical music (55). This is partitioned at (0,3,6,9), with tetrachordal sub-complexes,minor/major triads, dominant sevenths and minor ninths. Hexachordal formations, e.g. (0,3,4,6,7,9), are also relevant within 'interaction'. Van den Toorn commonly observes interaction between the diatonic C-scale and Model A, collection II of the octatonic scale. In a neo-Classical context, the pitch-class groupings: (0,1,3,4/3,4,6,7) and (0,3,4/3,4,7/3,6,7) are seen as entities in their own right. An illustration from the Symphony of Psalms (1930) shows interaction between Model A, collection III and the A-scale. Common groupings include minor-major thirds, dominant sevenths and the figuration: C,Eb,E/Eb,E,G.

(53) P. van den Toorn, The Music of Igor Stravinsky, New Haven, 1983.
(54) J. Straus, Review: The Music of Igor Stravinsky: 'The Octatonic Stravinsky', J.M.T., 26, 1983, pp.129-134.
(55) P. van den Toorn, op.cit., pp.50-51.

Since pitches 3 and 4 are both present, and pitch 3 is not simply a chromatic tendency tone, this represents a genuine 'merger'. Van den Toorn is convinced that it is only through 'an interacting partitioning of the octatonic collection (Model A), that we can begin to account for peculiarity in the exhibition of...Baroque and, or Classical conventions, inflexions and gestures' (56).

Many contexts described by van den Toorn exhibit ambiguity between centres a third apart, (0,3 relationship), in a way which is typical of Milhaud. At one point he refers to a 'background (0,3) partitioning of collection II in terms of (D,B)' (57), suggesting that the conflicting triads may achieve fusion. He thus comes close to admitting localised bi-tonality, albeit of a 'static nature', and lacking traditional harmonic process. Van den Toorn uses the term 'superimposition' (as does Milhaud) and argues that:

> Superimposition will seem ...apt ...to the extent that a certain opposition or 'polarity' is defined, in a context which octatonically protects this...'polarity' among the fragments being superimposed (58).

The octatonic perspective is less convincing in explaining dominant-tonic relations. (How ever limited the traditional, tonal functions in Milhaud's music, cadential gestures are preserved). Since the leading note is not present in Model A, one has to regard this as another octatonic-diatonic interaction. The strength of applying van den Toorn's approach lies in its consistency and motivic outlook, though more attention nust be directed towards the linear perspective and ordered motivic collections.

(56) P. van den Toorn, op. cit., p.297.
(57) Op. cit., p.302.
(58) Op. cit., p.62.

Taruskin's work supplements that of van den Toorn (59), emphasising the need to account for pitches not present in a given octatonic collection and arguing for a distinction between embellishment and directed motion. He considers whole-tone interaction with the octatonic collection and partitioning of the 'French sixth' chord,into two incomplete dominant sevenths, a tritone apart. On occasions, he even accepts a poly-tonal perspective: 'there may be some validity after all in regarding the Pétrouchka chord as a polytonalism' (60). Taruskin also observes 'white-key/black-key opposition': an idea transferable to Milhaud's early music (and used by Jeremy Drake).

* * * * *

An important article by Forte (61) concludes with three guidelines that should be borne in mind in analysis of Milhaud's music:

> an effective reading of the large-scale horizontal dimension should relate in specific ways to the motivic structure of the music.
>
> where specific non-tonal referential collections are in operation,...the reading should discover precisely how these are expressed in the music, without violating ...phrase groupings, rhythmically determined units, registral and timbral associations.
>
> the reading of linear structures should take into account onset and closure within the individual linear configurations as well as the relation between linear configurations in combination (62).

In comparing analyses of Le Sacre, he cautions over forcing relations between small and large-scale features. In evaluating Mitchell's analysis of Wagner's Prelude to

(59) R. Taruskin, ' "Chez Pétrouchka": Harmony and Tonality chez Stravinsky', Nineteenth-Century Music, X,3, Spring 1987, pp.265-286.
(60) R. Taruskin, op. cit., p.278.
(61) A. Forte, 'New Approaches to the Linear Analysis of Music', J.A.M.S., Spring 1988, pp.315-348.

Tristan und Isolde, Forte stresses that one need not insist on a simplistic overall tonality, where certain chords are viewed uncomfortably as substitute dominants. He also warns against an 'over-rigid adherence to a background model' and sees as far more important 'the dynamic correspondence of horizontal and vertical'. He proposes transformation of (tonal) voice-leading analysis into post-tonal linear analysis, where hierarchies are controlled by sets. Vertical 'slices' are used to seek further manifestations of the 'Tristan' chord: potentially a useful practice in analysis of Milhaud's music. Forte examines connections between horizontal and vertical configurations, noting when chords are subjected to rotation.

In the first movement of Scriabin's fourth sonata, he cautions against being misled by 'illusory tonal harmonies', when the vertical sonorities belong to other modes of organisation. He discusses forms of the tetrachord (4-23), including trichords: (3-7) and (3-9) - important in Milhaud's music. There are three structural strata interacting between diatonic and octatonic domains, connected by an augmented triad: the 'core' of (4-19) - a context paralleled by one in the 'Funèbre' of Milhaud's fourth quartet.

Forte's study is so important because it puts earlier discussion into perspective. His analyses of Liszt's Vallée d'Obermann, Via crucis, ('Station 8' & 'Station 5') and Trauer-Vorspiel are also useful as basic graphic models (63), with potential application in Milhaud's fourth quartet, especially for structures founded on (3-10) and (3-12) (64).

(62) A. Forte, op. cit., pp.346-7.
(63) A. Forte, 'Liszt's Experimental Idiom and Music of the Early Twentieth Century', Nineteenth Century Music, X, 3, Spring 1987, pp.209-228.
(64) A. Forte, op. cit., Example 2, p.313; Example 9, p.221.

Christopher Hasty's article advises on criteria behind set-theoretic segmentation (65),mentioning matters of psychology and perception, and the important relationship between phrase formation and whole structure. Choice of segmentation is influenced by 'discontinuities' of melody, duration, rhythm, register, timbre, dynamic and tempo. There are types and degrees of 'closure', which may produce a simple form: 'statement, departure, return' (as in much of Milhaud's music). Equally, there may be ambiguity or suspension of closure, threatening coherence, or a subsequent integration of previously non-cohering elements. A special type of closure is achieved by use of original and retrograde formal shapes. Hasty is not averse to overlapping segmentation where purposeful (66). Referring to Webern's first Bagatelle, he reveals interlocking sets of (4-7): C,C#,E,F/ E,F,G#,A/ G#,A,C,C# (67). (This may serve as a model for passages in Milhaud's early music where this set is also prominent.) Hasty discusses how later phrases are interpreted in the light of earlier ones; and, conversely, how an ambiguous earlier phrase may later be clarified. If additions to a structural formation 'threaten its integrity' at a localised level, then 'a shift must be made to a higher structural level'. Finally, Hasty adds that 'closure could be viewed at any stage as a realisation of the possible and thus a renunciation of the future', echoing Leonard B. Meyer's views (discussed later).

Joseph Straus's article, 'Stravinsky's Tonal Axis', explores 'poles of attraction'(68), and, though he may be criticised for over-simplification, his notion of opposing axes (often

(65) C. Hasty,'Phrase formation in Post-tonal Music', J.M.T, 28, 1984, pp.167-190.
(66) C. Hasty, op. cit., p.182.
(67) Op. cit., Ex.8, p.185.
(68) J. Straus,'Stravinsky's Tonal Axis', J.M.T., 26, 1982, p.283 ff.

concerned with third relations) is relevant to Milhaud's style. He considers levels of 'tonal' polarity: firstly, between two or three competing axes, (e.g. (Eb,G,Bb/G,Bb,D) in the third movement of Dumbarton Oaks) and secondly, within a single axis (e.g. (G-Bb/Bb-Db) in Oedipus Rex). He observes primary and secondary axes and believes that it is from this 'competition' that the tension results. His ideas about superimposing axes on C and Eb, e.g. (C,Eb,E,G,Bb) in the third movement of the Symphony of Psalms, could explain Milhaud's fondness for Blues third and seventh chords. He parallels the 'shaping role' of this polarity of axes and traditional tonic-dominant polarities. His work offers connections between third relations and an octatonic background, as shown by three, third-related triads in the Symphony of Psalms: (A,C#,E/ C,E,G/ Eb,G,Bb), i.e. (A,Bb,C,C#,Eb,E,(F#),G). These harmonies are connected by 'pattern-completion' as a prolongational aspect of voice-leading. Straus claims (rather as Meyer) that repetition causes a 'normative unit', so that the statement of all but one element causes expectation and a sense of directed motion towards the missing element. He concludes that axes and patterning are closely related, both as theoretical constructs and compositional techniques.

Two articles by Arnold Whittall examine issues of dissonance and polarity (69). The first on Le Sacre is concerned with discrepancies between theory and practice, an idea relevant to Milhaud's music. Whittall considers that an approach concentrating on 'the role of conflict' might usefully complement existing analyses of Le Sacre. He mentions tensions between a 'particular modality' and a 'focused

(69) A. Whittall,'Music Analysis as Human Science? Le Sacre du Printemps in Theory and Practice', Music Analysis, 1;1, 1982, pp.33-53.'The Theorist's Sense of History: Concepts of Contemporaneity in Composition and Analysis', Journal of the R.M.A., vol.112/1, 1986-7, pp.1-20.

total chromaticism', leading to a dissonant rather than consonant norm. Two types of 'focused dissonance' are identified: a single reiterated dissonance and one with a 'degree of motion and transformation within it': both 'lack the capacity for substantial prolongation'. Applicable to Milhaud's music is the view that the 'trappings' of tonality (triads, fifth relations, consonance and dissonance) are employed for dramatic effect. Whittall describes a section of Le Sacre, with an Eb/C opposition, and identifies the tension as resulting from the 'superimposition of the unrelated'. (The parallels with Milhaud's music are strong, for instance, at the end of the first movement of the clarinet sonatina Op.100.) Whittall advocates studying the function of dissonances and regarding elements on their own terms, not as substitutes for something else. He views dissonance as a positive 'structural focus', rather than as a neutral 'polychord' construct.

His second article pursues polarity further, perceiving a balance between 'confrontation' (or polarity) and 'complementation'. Confrontation may exist not only between pitches, but also between old and new, which, in the neo-Classical music of Stravinsky (and Milhaud), may 'converge precariously' and thus form a certain 'symbiosis'. If there is no such fusion, the juxtaposition, or superimposition, may result in a collage effect. Polarities also exist between 'extended tonality' and 'integrated atonality' (or between Milhaud's 'polytonalité et atonalité'). A further 'dramatic' confrontation is that of solo versus instrumental group. Thus, elucidating contrasts, and how they contribute to structure, can be at least as important as seeking a bland, simplistic unity.

One more piece of research on the music of Stravinsky (and other post-tonal composers) may usefully be discussed here:

a doctoral study by Michael Russ (70). Russ employs voice-leading analysis, a contextual approach influenced by Edward T. Cone, pitch-class set analysis (including pitch symmetry) and semiotic 'note', 'attack' and 'duration'-counts.

He considers that Stravinsky 'abandons both upper-voice and bass while remaining tonal' (71). In Two Poems of Balmont, he stresses balance and complementation between harmonic units rather than functional (hierarchic) relations, and observes recurrent fixed pitches, but not prolongation. He seeks interpenetration between scalar types and attempts to define ambiguities and the degree of divergence: 'Stravinsky's music is very much the sum of its outwardly contradictory, often divergent, and almost always ambiguous parts' (72). The same is true of Milhaud's music.

In voice-leading, Russ stresses the need to distinguish between essential structural elements and inessential diminution, which prolongs the structure. He wonders whether Straus's dissonant yet stable axes can be prolonged at background level if they are not evident on the surface and is doubtful whether 'pattern-completion has the power to prolong tones' (73). He also mentions Travis's directed motion and dissonant prolongation, stating that in voice-leading analysis, dissonance must be subservient to consonance. After identifying problematic pitches which are neither structural nor the result of diminution, he presents an alternative approach 'based on contextually defined associations' (74), requiring 'convergence' (or Cone's 'unification') 'of elements' (75). One must assess the degree of divergence, measure the closeness

(70) M. Russ, Four Studies in the Analysis of Post-Tonal Music, Ph.D diss., University of Ulster, 1985.
(71) Op. cit., p.212.
(72) Op. cit., p.92.
(73) Op. cit., p.165.
(74) Op. cit., p.167.
(75) Op. cit., p.169.

of association between individual pitches and collections and define the nature of ambiguities. 'Structure' thus consists of a unique balance of fixed and changing elements.

Considering prolongation in Webern's Bagatelle Op.9, no.1, Russ questions the overall functional control of the bass, suggesting that the music may maintain or challenge this concept. He investigates patterning and motivic association, concluding that the piece has 'such a compressed structure that the concept of prolongation is perhaps unnecessary. Events are stated, not extended' (76).

Russ states that 'virtually all aspects of (post-tonal) structure are defined contextually, rather than pre-compositionally' (77) and that: 'P.c. set analysis pursued on its own will never lead to a theory of early twentieth century harmonic relations' (78). He advocates 'more systematic and wide-ranging enquiry' into the role of pitch-symmetry (and axes), used sometimes to extend tonal hierarchy and sometimes to negate it (79). He relates the decline of the conventional Ursatz in early twentieth-century music to the reduced importance of prolongation of 'hierarchic tonal schemes' and considers that 'large-scale projections of motivic and symmetrical patterns may compensate for the decreasing reliance on prolongation' (80). Finally, in considering the 'prime motivator' in Webern's first Bagatelle, he stresses a need to move away from the 'present obsessive concern with the surface and look for deeper structures' (81).

(76) M. Russ, op. cit., p.219. This may also be true of Milhaud's very different miniature structures.
(77) Op. cit., p.220.
(78) Op. cit., p.221.
(76) Op. cit., p.219.
(77) Op. cit., p.220.
(78) Op. cit., p.221.
(79) Op. cit., pp.222-3.
(80) Op. cit., p.224.
(81) Op. cit., p.219.

Apart from ideas applied to Stravinsky's music, there are those from David Neumeyer's study of Hindemith's theory and practice (82). Neumeyer advocates a five-stage hierarchical voice-leading analysis, adapted from Hindemith's Craft of Musical Composition (83). Useful concepts include equating pitches 1 and 11, (flattened second and leading note) and assigning importance to the central pitch: 6, (raised fourth), as well as 'pillar harmonies' and 'fundamental bass' (to determine the harmonic resultant of 'poly-tonality'). There is a parallel between Hindemith's 'indefinite third relation' and the (0,3) relation in octatonic theory, whilst Milhaud's use of third relations is one of his most striking and consistent features. Hindemith's qualification of dissonant tensions produced by different intervallic combinations ('harmonic fluctuation') may also be applicable to Milhaud's music.

Neumeyer combines set-theory and voice-leading in analysis of Hindemith's early chamber music, particularly the solo 'cello sonata Op.25 no.3 of 1922 (84). Neumeyer suggests a parallel between voice-leading and set-theory, in that Stages I and II of the voice-leading analysis equate roughly with the set-complex and nexus sets, though there is no equivalent of a Schenkerian middleground. Neumeyer's view is that:

> Forte dissociates pc-set structures from any necessary connection to melodic or thematic process. Pc sets underlie melodic configurations, which include motives ... I must accept a closer connection between motive and 'significant set' whenever possible (85).

In adaptation of these ideas, two differences between Milhaud and Hindemith have to be borne in mind. Firstly,

(82) D. Neumeyer, The music of Paul Hindemith, New Haven, 1986.
(83) P. Hindemith, Craft of Musical Composition, I, 4th ed., tr. Mendel, Mainz, London, 1942.
(84) D. Neumeyer, op. cit., pp.123-136.
(85) Op. cit., p.125.

Hindemith's compositional processes derive from harmony, whereas Milhaud's derive from melody. Secondly, Hindemith is bound to a tonal interpretation of his and other music by means of fundamental bass, whereas Milhaud admits atonality.

* * * * *

It is already clear that melodic analysis will be important in any approach to Milhaud's music, so the work of Leonard B. Meyer must be considered (86). His views represent a shift away from the Gestalt concept of 'expectation', to one of 'implication' and 'realisation'. Implications depend on preceding events and stylistic content; and each parameter (including melody) may have its own implication. These may be contradictory, so that there is only ever a 'part-realisation'. When implications are 'unrealised', they are seen as potential. This equates with a lack of 'closure' of that implication. The approach is attractive in that the music generates its own contextual procedures, but can be for the same reason vague and open-ended. Ideas of pattern consistency may be helpful in Blues or Jazz-influenced works, as observed by Charles Keil back in 1969: 'Blues pattern consistency or style has never been given the intensive treatment it warrants' (87). Keil, citing Meyer, advocates 'dissection of a few outstanding contemporary blues selections', investigating 'probability relationships, implications and goals, harmonic habits, melodic norms, and ranges of permissable deviation, and the techniques of building and releasing tension' (88).

* * * * *

(86) L.B. Meyer, Explaining Music: Essays and Explorations, Berkeley, 1973. The principles are also outlined in I. Bent, Analysis: The New Grove Handbooks in Music, London, 1987, pp.69-70.
(87) C. Keil, Urban Blues, Chicago, 1969, Appendix B, 'Talking about Music', pp.203-216.
(88) C. Keil, op. cit., p.208.

SELECTION OF ANALYTICAL APPROACH

Milhaud is firstly a modal melodist, so the primary analytical concern will be melodic, with harmonic interpretation as secondary: the ideal in Forte's parlance being to seek the 'dynamic correspondence' between the two. Even if Milhaud composed his music contrapuntally, the lines are also heard together as 'simultaneities'. A motivic approach seems most likely to succeed. Since Milhaud's music is almost always centric at background level, though more conflicting and complex at surface level, a synthesis of post-Schenkerian voice-leading analysis (broadly Salzerian) and set-theory (following guidelines of Forte and Hasty) will usually be employed. The kind of correspondence between motives and significant sets that David Neumeyer found in Hindemith's music may also be detected in that of Milhaud. Conventional intervallic interpretation will be complemented by pitch-class set notation where appropriate. Foreground and background structural levels will be maintained. Another important part of the analytical approach will concern the partitioning of modal models, derived from van den Toorn and detailed in the next section: 'The Approach to Modality'. Although the dissertation focuses on pitch relations, it must still respect the onset and closure of phrases, metric/rhythmic patterns, register and timbral associations.

Motivic interpretation will, where appropriate, embrace Leonard B. Meyer's 'Implication-Realisation', examining both decorative and directed motion. Joseph Straus's Pattern-Completion may be used in similar ostinato contexts. Stratification (successive layering) will be observed, sometimes involving poly-tonal superimposition (as a compositional device). Third relations, at all structural levels, will be be pursued from the perspectives of van den Toorn, Straus and Hindemith.

Polarity is prominent in Milhaud's music, in varying forms and levels and will be approached along lines suggested in the general analytical theory. Straus's 'axes' will be implemented, along with assessment of the 'role of conflict' as advocated by Arnold Whittall. The nature of, and relations between, 'focused dissonance' and consonance will be pursued, together with Hindemith's tension theory ('harmonic fluctuation'). Milhaud's idea of an expressive 'force sonore' is also relevant here. Localised bi-modality will be viewed as a type of polarity, along with the stylistic opposition/synthesis of old and new.

It is perhaps in the Blues/Jazz domain that the most original analytical contribution can be made. 'Rag-time', 'Blues' and 'Dixieland' (or 'New Orleans') are clearly perceived influences on Milhaud's music in the 1920s, so that one can investigate, along Keil's lines, the extent to which Milhaud's music parodies the structures of Jazz, as in Analysis 5B (89).

The approach adopted accepts broadly the work of Collaer/Galante and Drake in establishing the essence of Milhaud's style and heeds Forte's guidelines on the implementation of linear analysis. The approach must respect Milhaud's views and permit flexibility. Often a variety of possible interpretations will be offered before one is selected as being the most informative and appropriate in a certain context.

(89) The following are useful sources here: D. Baskerville, Jazz Influence on Art Music to Mid-Century, Ph.D., University of California, at Los Angeles, 1965; ed. C. Colin, Encyclopaedia of Improvisation, New York, 1972; F. Tirro, 'Jazz', Dictionary of Twentieth Century Music, ed. J. Vinton, London, 1974, pp.367-376; B.Kail, How to play Jazz Piano, London, 1987. See also Appendix 4, pp.336-8, of this dissertation: The Influence of Jazz on 'Concert' Music.

The remaining Conclusions on Analytical Approach consist of Modal Models for Pentatonic, Chromatic, Blues and Altered Mixolydian modes; Factors which may aid the Perception of Bi-modality; Suggested Bi-modal Classifications; Summary of Approach for Analyses 1-8 and a statement on Analytical Notation.

APPROACH TO MODALITY (Partitioning of Modal Models)

In approaching Milhaud's modal music, traditional terminology (e.g. Phrygian mode on G) will be used in preference to 'E scale on G' for two reasons: firstly, this method is instantly clear; secondly, preservation of a historical perspective seems appropriate. Most common are the Mixolydian (G-scale), Lydian (F-scale) and Dorian (d-scale). In determining the modal 'final' of these and other formations, Hindemith's concept of 'fundamental bass' may have a role to play. Octatonic partitioning will use van den Toorn's Models A and B, with other modal formations approached along similar lines.

The simplest formations are the pentatonic collections, shown in Figure 2.4 (overleaf), with modal final on the common pitch of C. The purpose of acknowledging five related types, all referable as set (5-35), is to ascertain which arrangement of pitches Milhaud favours in relation to the modal final, when this is not ambiguous. The essential melodic feature is the (0,2,5) (3-7) construct, which can cause modal ambiguity between tonic and subdominant: e.g. Collection 2 could be centred on C, or possibly F. The (0,2,5) construct explains the frequency of movement from fifth to sixth degrees and thence to the tonic, omitting the leading note, especially in its most common form as Collection 1. It may be through this construct and its properties that Milhaud was drawn to the pentatonic collection (with its negro origins) and thence to Jazz.

FIGURE 2.4. PENTATONIC MODEL

FIVE RELATED COLLECTIONS (0,2,4,7,9) - Modal final on C

Collection:	Pitches									
1				C	D	E		G	A	(Ascent from C: 3 + 2)
2				C	D		F	G	A	(Ascent from C: 2 + 3)
3			G		Bb	C	D		F	(Ascent/descent from C)
4	Eb	F	G		Bb	C				(Descent from C: 2 + 3)
5	Eb	F		Ab	Bb	C				(Descent from C: 3 + 2)

PITCH OCCURRENCES ACROSS THE COLLECTIONS:

Occurrences: Pitches: ⟶

↓	G	Ab	A	Bb	C	D	Eb	E	F
5					C				
4	G								F
3				Bb		D			
2			A				Eb		
1		Ab						E	

COLLECTION 1 (Symmetrical partitioning):
-Fourth and seventh melodic degrees omitted

Mode:	C	D	E	G	A	C	D	E
	(0,	2,	4,	7,	9)			
				(9,	7,	4,	2,	0)
Tetrachords:	(0,	2,	4,	7)	(7,	4,	2,	0)
			(0,	3,	5,	8)		
'Trichords':								
		(0,	2,	5)				
				(0,	2,	5)	(0, 2,	[5])
	([5]	2,	0)	(5,	2,	0)		
					(5,	2,	0)	

CHORDS (including dyads):

PITCHES	C(0)	D(2)	E(4)	G(7)	A(9)
(0,3)(0,7)		D A	E G	G D	
(0,3,7)					A C E
(0,4,7)	C E G				
(0,4,7,9)	C E G A				
(0,3,7,10)					A C E G
	I	II	III	V	VI

The (0,2,5/0,3,5) construct can be expanded to (0,2,5,7), set (4-23) and (0,3,5,8), set (4-26); with the (4-26) tetrachord providing common ground between pentatonic and octatonic collections. Two (4-26) constructs separated by a semitone produce the Octatonic Model A: (0,1,3,4, 6,7,9,10). The most notable harmonic feature of the pentatonic mode is that full triads only occur on two pitches separated by a minor third: e.g. those on C and A for Collection 1. The unordered pitch contents of C6 (C,E,G,A) and A7 (A,C,E,G) are identical: hence ambiguity at the third, or in Hindemith's parlance 'indefinite third relation'. The most profitable use of the Pentatonic Model is in analysing exploratory works, e.g. Analysis 1: 'Funèbre' of the fourth quartet (1918) and parts of Machines Agricoles (1919) (Songs I, IV and particularly V), though the technique is helpful occasionally in later neo-Classical works, e.g. Analysis 7: Scene V of L'Abandon d'Ariane (1927).

Chromaticism is an important component of exploratory works and the Chromatic Matrix (Figure 2.5: overleaf), involving the whole-tone collection on C across the diagonal (bottom left to top right), is another useful derivation from van de Toorn's work. The Matrix proves useful in Analysis 3: Dixtuor à Vent ('Finale'), where the relevant portion is the segment marked off at the bottom of Figure 2.5. In Analysis 3, the 'Augmented Triadic framework' (Partitioning 3) and 'Possible semitonal Chords' (Partitioning 4) can be perceived.

One may also apply modal partitioning to the Blues collection, which has considerable application for Milhaud's music. The Blues scale is a pitch collection which admits minor and major third, (i.e. interval classes 3 & 4), and minor and major seventh (interval classes 10 & 11). In Milhaud's parlance, the scale embodies 'mélange', or modal mixture and this is often 'le sentiment unitonal', resulting

FIGURE 2.5: CHROMATIC MATRIX

0/	12	11	10	9	8	7	6	5	4	3	2	1	0/	12
12	C	C#	D	Eb	E	F	F#	G	Ab	A	Bb	B	C	0
11	B	C	C#	D	Eb	E	F	F#	G	Ab	A	Bb	B	1
10	Bb	B	C	C#	D	Eb	E	F	F#	G	Ab	A	Bb	2
9	A	Bb	B	C	C#	D	Eb	E	F	F#	G	Ab	A	3
8	Ab	A	Bb	B	C	C#	D	Eb	E	F	F#	G	Ab	4
7	G	Ab	A	Bb	B	C	C#	D	Eb	E	F	F#	G	5
6	F#	G	Ab	A	Bb	B	C	C#	D	Eb	E	F	F#	6
5	F	F#	G	Ab	A	Bb	B	C	C#	D	Eb	E	F	7
4	E	F	F#	G	Ab	A	Bb	B	C	C#	D	Eb	E	8
3	Eb	E	F	F#	G	Ab	A	Bb	B	C	C#	D	Eb	9
2	D	Eb	E	F	F#	G	Ab	A	Bb	B	C	C#	D	10
1	C#	D	Eb	E	F	F#	G	Ab	A	Bb	B	C	C#	11
0	C	C#	D	Eb	E	F	F#	G	Ab	A	Bb	B	C	12
12/0	1	2	3	4	5	6	7	8	9	10	11	12	/0	

SYMMETRICAL PARTITIONING:

1. C - F# - C
   (0 - 6 - 12/0)

(Tritonal partitioning: 2 groups of 6 semitones)

2. C Eb F# A C
   (0 3 6 9 12/0)

(Octatonic-type partitioning:(4-28)framework; 4X3 semitones)

3. C - E - Ab/G# - C
   (0 - 4 - 8 - 12/0)

(Augmented triad partitioning:(3-12)framework;3X4 semitones)

4. (C, C#,D, Eb) (E, F, F#, G) (Ab, A, Bb, C)
   (0 4 8)

(Possible semitonal 'Chords' at 0,4,8)

5. C D E F# Ab Bb C
   (0 2 4 6 8 10 12)
   (1 3 5 7 9 11)
   (C# Eb F G A B)

(Whole-tone Collections on C/C#: 6 groups of 2 semitones)

from the encounter of two lines composed in Ionian modes a minor third apart, e.g. C and Eb (with Blues sixth as well as third and seventh), discussed above. One could regard the Blues scale on C as a composite scale of three Ionian modes a fifth apart (as in the cycle of fifths): Bb, F and C. The special properties of the scale are examined in Figure 2.6 (below and overleaf). In Figure 2.6, the F# & Ab in parentheses are further Blues-type pitches, not present in the given 'diatonic' collection, yet commonly invoked and supportive of the third of a chord. In listing chordal types, there seemed little point in extending beyond seventh chords, though chords of the added sixth could be treated in the same way, if relevant. One may also consider the descending form of the Blues collection: D C B/Bb A G F E/Eb D and, though this may seem curious, it proves useful in Analysis 4: 'Ipanema' from Saudades do Brazil, when a Straus-type minor seventh axis seems to be in operation. (Van den Toorn also makes a distinction between ascending and descending scalic forms, as discussed within the general analytical theory.) Straus's example in Stravinsky's Symphony of Psalms (90), (C,E,G/Eb,G,Bb), shows how Blues third and minor seventh might come about through two competing 'tonal axes', i.e. referring back to the combining of Ionian modes a minor third apart. Beyond its basic pitch requirements, Blues style demands a flexible melodic 'bending' between major and minor allusions, illustrated in Chapter 4.

FIGURE 2.6. BLUES SCALE: 9 PITCH SYMMETRICAL SCALE

(D)	C	B	Bb	A	G	F	E	Eb	D	(C)	BLUES SCALE
	0	1	2	3	5	7	8	9	10		PITCH CLASSES
	2	1	1	1	2	2	1	1	1	2	SEMITONES

(90) J. Straus, op. cit.

FIGURE 2.6 Continued PARTITIONING OF BLUES SCALE:

	C	D	Eb	E	F	G	A	Bb	B	C	D
1.	0					7					0
		0				5				0	
(Symmetrical partitioning: (C-G-D); (D,G,C))											
2.		0	(1)	2	3	5	3	2	(1)	0	
		5	(4)	3	2	0	2	3	(4)	5	
(Pentachords/Tetrachords: (0,(1),2,3,5))											
3.				E	F	G	A	Bb		C	D Eb
				(0	1	3		6)			
				(6		3	1	0)			
							(0	1		3	6)
							(6			3	1 0)
Further Tetrachords: (0,1,3,6)											
4.	4	(2)	1	0				0	1	(2)	4
		0	1	(2)	4	(2)	1	0			
(Tetrachords: (0,1,(2),4))											
5.	3	1	0	0	1	3	1	0	0	1	3
	C	D	Eb	E	F	G	A	Bb	B	C	D
('Trichordal groupings: (0,1,3))											

CHORDS FROM BLUES SCALE:

PITCHES	C (0)	D (2)	Eb/E(3/4)	F (5)
(0,3,6)			E G Bb	
(0,3,7)	C Eb G	D F A	E G B	F(Ab)C
(0,4,7)	C E G	D (F#) A	Eb G Bb	F A C
(0,3,4,7)	C Eb/E G			
(0,3,6,10)			E G Bb D	
(0,3,7,10)	C Eb/E G Bb	D F A C	E G B D	F A C Eb
(0,4,7,11)			Eb G Bb D	
	I	II	III	IV

PITCHES	G(7)	A (9)	Bb/B(10/11)
(0,3,6)		A C Eb	B D F
(0,3,7)	G Bb D	A C E	
(0,4,7)	G B D		Bb D F
(0,3,4,7)	G Bb/B D		
(0,3,6,10)		A C Eb G	B D F A
(0,3,7,10)	G Bb/B D F	A C E G	
(0,4,7,11)			Bb D F A
	V	VI	VII

One may consider interaction between Blues and octatonic collections, as did van den Toorn between diatonic and octatonic collections. Interaction between the Blues scale and his 'Model A' yields two trichordal sub-sets: (0,1,3); whereas that between the Blues scale and 'Model B' yields two tetrachords: (0,2,3,5), as shown in Figure 2.7. Interaction between the Blues and Model B is more significant since it preserves Blues third, dominant and flattened seventh. Additionally, one could list chords produced by interaction between the Blues scale and Octatonic Models A and B, if this seemed useful.

FIGURE 2.7. INTERACTION OF BLUES AND OCTATONIC SCALES

C	B	Bb	A	G	F	E	Eb	D	C	BLUES SCALE
0	1	2	3	5	7	8	9	10		PITCH CLASSES
0	1		3	4 6	7		9	10		MODEL A
0	1		3		7		9	10		INTERACTION
0		2	3	5 6		8	9		11	MODEL B
0		2	3	5		8	9			INTERACTION

Other important scalic formations (the use of which may be elucidated by modal models) are the Lydian, Dorian and Aeolian modes, as well as a 'new' mode explored by Milhaud: (G,A,B,C,D,Eb,F,G). This mode on G is effectively the melodic minor in ascent, with its final on the fifth degree, as in a plagal rather than authentic form. It might be regarded as authentic Mixolydian, with flattened sixth; or plagal Hypo-Ionian, with ambitus G-G, and modified third: Eb! 'Altered Mixolydian' seems the most plausible title and will be used hereafter. The Altered Mixolydian is symmetrical about the mid-point C/D; with two (0,1,3,5) (4-11) tetrachords, shown in Figure 2.8 (overleaf). The lower tetrachord: (G,A,B,C), (2-2-1) is identical to the Ionian; whilst the upper tetrachord (D,Eb,F,G), (2-2-1) accords with

the Aeolian. The complete mode may be constructed from two adjacent, seventh chords: I7 and VII7; G7 and F7 (Figure 2.8). These seventh chords could provide an element of interaction with the Blues collection.The Altered Mixolydian mode may also be partitioned into three portions at (0,4,8): G,B,Eb, set (3-12), with prominent triads a third apart on Eb and G. These two triads may be encapsulated as a single seventh chord: Eb,G,B,D, (4-19), in the manner of Straus's tonal axes. Similarly, triads on d and F may be heard compositely as dm7: D,F,A,C (4-26). Thus set (4-26) is also a potential area of interaction between Altered Mixolydian and pentatonic collections. Additionally, the main portion of the scale, omitting the 'tonic', is identical with the Octatonic collection of Model A: i.e. (0,1,3,4,6,7,9) on G#: (A,B,C,D,Eb,F), also illustrated in Figure 2.8:

FIGURE 2.8 ALTERED MIXOLYDIAN MODE
7-note scale on G: Symmetrical partitioning

Mode	G	A	B	C	D	Eb	F	G
(in ascent):	(0	2	4	5	7	8	10)	
		(10	8	7	5	4	2	0)
Division:	G			C	D			G
4th/5th	(0/5			5/0)	(0/5			5/0)
	(0				7)			
				(7				0)
Division:		A	B			Eb	F	
Tritone		(0/6				6/0)		
			(0/6)				(6/0)	
Division:	G		B			Eb		G
Aug. Triad:	(0		4			8		0)
(3-12)								
Tetrachords:	(5	3	1	0)	(0	1	3	5)
(4-11) etc.		(0	2	3	5)			
				(0	2	3	5)	
(4-26)		(0		3	5		8)	
Trichords:	(5		1	0)	(0	1		5)
	(7				1	0)		
			(0	1				7)
(3-7)		(5		2	0)			
				(0	2		5)	

FIGURE 2.8 Continued

CHORDS FROM ALTERED MIXOLYDIAN MODE:

PITCHES	G(0)	A(2)	B(4)	C(5)
(0,3,6)		A C Eb	B D F	
(0,3,7)				C Eb G
(0,4,7)	G B D			
(0,4,7,8	G B D Eb			
(0,4,7,10)	G B D F			

PITCHES	D(7)	Eb(8)	F(10)
(0,3,7)	D F A		
(0,4,7)			F A C
(0,4,8)		Eb G B	
(0,3,7,10)	D F A C		
(0,4,7,10)			F A C Eb
(0,4,8,11)		Eb G B D	

Seventh chords on G and F produce the complete mode:

	G	B	D	F
(F)	A	C	Eb	

INTERACTION BETWEEN ALTERED MIXOLYDIAN AND OCTATONIC MODES:

Altered Mix:(7-34)(0,1,3,4,6,8,10) G							G
Interaction:		A	B	C	D	Eb	F
Octatonic: (8-28)(0,1,3,4,6,7,9,10) G#							F#

APPROACH TO LOCALISED BI-MODALITY

There are instances of what is still best explained as bi-modality, as in the fourth quartet and Machines Agricoles (Analyses 1 and 2). The concept can help to explain the effective and precarious balancing of opposing forces (polarities). However, under what conditions, if any, can different modes cadence simultaneously, preserving the separate identities and involving the Schenkerian impossibility of more than one Ursatz? Similarly, can the listener ever perceive two separate entities simultaneously, as a stereo-type effect; and is this analytically relevant? I am convinced of the analytical validity and usefulness of types and levels of localised bi-modality, but not of poly-modality. Before proceeding with a means of bi-modal classification (Figure 2.10), a list of factors which would aid the perception of bi-modality is suggested (Figure 2.9):

FIGURE 2.9: FACTORS WHICH MAY AID PERCEPTION OF BI-MODALITY:

(1) Clear cadences (including staggered cadences).
(2) Pedal points, prolonging the respective centres, or possibly their dominants. These might be elaborated into ostinati.
(3) Essentially diatonic activity within each modality (very limited chromaticism), i.e. simple melodic definition.
(4) Sustaining of two centres over a sufficient time-span.
(5) Use of two distinct modal types: e.g. Chromatic and pentatonic collection (See Analysis 1).
(6) Choice of interval between modalities - avoiding too many intersecting pitches. e.g. Ionian on C and F# are more distinctive than C and F, or C and G.
(7) Distinctive (and simple) rhythmic identities.
(8) Possible motivic mirroring/imitation (e.g. Machines Agricoles: songs 4 and 5).
(9) Balance of texture, instrumental forces (as in fourth quartet), dynamic levels, proportions.
(10) Clarity of contrapuntal texture ('light').
(11) Contrasting timbres (e.g. mixed chamber ensemble: Machines Agricoles) and/or nuances to enhance the separate identities.
(12) Sparse registral spacing.
(13) Clear-cut, small-scale structures (e.g. fugue).
(14) Small-scale ensembles i.e. genuine chamber music.
(15) Possible use of particular playing positions (performance lay-out): e.g. spacing on stage; on-stage/off-stage arrangement; live/recorded (taped).

FIGURE 2.10: SUGGESTED 'BI-MODAL' CLASSIFICATION

CLASS 1a - Absorption:
A context in which there is one main modality and one subsidiary, heard in the terms of the other, now modified, collection: e.g. Ionian modes on C and Bb may produce C/c7, with Blues third. Absorption of the subsidiary modality may occur at a cadence (where only the main modality is affirmed), or during a phrase. The two separate modalities form one compound entity on the 'stronger' pitch centre, this class commonly occurring in piano writing, where there are no distinct instrumental timbres by which to identify each modality.

CLASS 1b - Absorption:
A more extreme (and unusual) version of Class 1a, involving absorption of both rival modalities, which are then transformed into a new modal entity. This state is dependent on the interval separating the modalities and on emphasis and prolongation of a common pitch. It is most likely to occur between modalities with a high number of intersecting (common) pitches, e.g. combined Ionian modes on C and D: (C c# D E f/f# G A B C) could

produce a Lydian/Blues seventh-type mode on G: (G,A,B C/c#,D,E,f/f#,G), if the G pitch was sufficently emphasised, especially in the lowest part (i.e. principle of fundamental bass).

CLASS 2: Bi-modality at Foreground Level:

One modality predominates; the other is subsidiary. However, the subsidiary modality still has a localised identity and is not absorbed during a phrase. Instrumental/timbral distinctions, motivic mirroring of the main modality and choice of conflicting modalities (e.g. C & C#), assist in perception of this class. There are varying degrees of the class, but it might best be described as an 'unequal partnership'.

CLASS 3: Bi-modality at Middleground Level

3a - Oscillation/Ambiguity:

The listener may be unsure which of two modalities is in operation, even though the modes are employed consistently across a section of a work. The phenomenon frequently occurs in ostinati passages.

3b - Genuine Bi-modality:

A rare, precarious balance between two modalitites, often employing modal 'finals' a third apart. The effect may be aided by any of the 15 factors listed above. This genuine bi-modality seldom remains audible as distinct, polarised strands for a whole movement, but neither modality is absorbed by cadence. This parity of two equal and opposing collections is put over most successfully in string quartet format, with balanced pairings (as in the opening of the fourth quartet).

CLASS 4: Atonality-Foreground/Middleground Level:

As Milhaud commented in 'Polytonalité et Atonalité', combining two (or more) tonal/modal lines can result in atonality, certainly at surface level.

* * * * *

There are connections between the interval separating the 'finals' of two modalities and the likely Bi-modal Class. Composite collections can be tabulated (from interaction of two Ionian modes) rather as in Milhaud's article: C-C#, C-B; C-D, C-Bb; C-Eb, C-A; C-E, C-Ab; C-F, C-G: C-F#, C-Gb. These combinations are identified as dyad sets: (2-1 to 2-6) in Figure 2.11 (overleaf):

FIGURE 2.11

DYAD SET	IONIAN MODES	INTERSECTION	POSSIBLE BI-MODAL CLASS
2-1:	C-C#; C-B	(0,5)	Class 4 Atonal; Possible Class 2, 3b
2-6:	C-F#; C-Gb	(0,6)	Class 4 Atonal; Possible Class 2, 3b
2-2:	C-D; C-Bb	(0,2,4,5,7,9) Set (6-32)	Class 1a; Possible Class 3
2-5:	C-F; C-G	(0,2,4,5,7,9) Set (6-32)	Class 1a; Possible Class 3
2-3:	C-Eb; C-A	(0,2,5,7) Set (4-23)	Class 1a/b Possible Class 3
2-4:	C-E; C-Ab	(0,2,7) Set (3-9)	Class 1a/b Possible Class 3

One may distinguish between the common pitches of the interaction and those singular to either original modality. Often, at background level, the composite collection is totally chromatic, [e.g. combination of Ionian modes whose relationship is denoted by dyad sets (2-1) and (2-6)], yet with certain pitch priorities. Occasionally, combined Ionian modes produce a single Blues-type collection, e.g. dyad set (2-3), Ionian on C and Eb: (C D Eb/E F G Ab/A Bb/B C). Ionian modes on C and F (set 2-5) can produce an Ionian mode with Blues seventh: (C D E F G A Bb/B C); whilst Ionian on C and G (also 2-5) can produce a Lydian tendency mode: (C D E F/F# G A B C). Thus one can appreciate 'le sentiment unitonal' of which Milhaud spoke in his article of 1923.

* * * * *

Having now considered all the analytical possibilities, it is appropriate to give a Summary of Approach, for Analyses 1-8, as in Figure 2.12 (overleaf):

FIGURE 2.12: SUMMARY OF APPROACH: ANALYSES 1-8

1	Mixture of voice-leading & set-theory (emphasis on the latter, including Whittall's chromatic complementation); van den Toorn's modal partitioning (octatonic/pentatonic: Figure 2.4); octatonic axes of Straus,van den Toorn,Russ; motivic interpretation (paradigmatic layout).
2	Mixture of voice-leading (with incipient Blues third) and set-theory (including chromatic note series; Forte's 'vertical slices'); van den Toorn's octatonic partitioning.
3	Mixture of voice-leading & set-theory (emphasis on the latter, including chromatic complementation, chromatic note series built on set (4-7): cf. Hasty; Drake); octatonic axes of van den Toorn/Straus; Whittall's levels of dissonance; Meyer's Implication-Realisation, Straus's Pattern-Completion; Chromatic Matrix: Figure 2.5.
4	Mixture of voice-leading & set-theory; comparative analysis with K. W. Daniel; Blues/octatonic collections (including descending Blues scale: Figure 2.6); Tritone-related dominant seventh complexes; Straus's seventh axis.
5A	Voice-leading & Thematic/Motivic analysis; modal partitioning (especially Blues Collection: Figure 2.6); thematic extension/transformation; harmonic analysis.
5B	Comparative analysis with Stuart's Jazz manual (as standard Jazz practice): implementing Keil's approach (embracing 12-Bar Blues form, harmonic riffs, Blues melodic patterning, rhythmic formulae, decorations).
6	Modal partitioning, derived from van den Toorn; Salzerian voice-leading analysis; Hindemith's tension theory (harmonic fluctuation); levels and types of dissonance.
7	Mixture of voice-leading & set-theory; modal partitioning (including pentatonic: Figure 2.4); comparative interpretation with Drake; use of paradigmatic layout for motivic development; metrical interpretation of ending.
8	Mixture of voice-leading & set-theory (including (4-7), use of 'vertical slices'); paradigmatic layout for motivic development; modal perspective (limited octatonicism); phrase: statement/response (Hasty, Meyer, Drake).

ANALYTICAL NOTATION

Much of the analysis is in graphic form. The voice-leading notation (including abbreviations) is a combination of that used by Heinrich Schenker in Der freie Satz (Free Composition): Supplement (91) and by Felix Salzer in Structural Hearing(92).Terminology (including abbreviations) relating to the supplementary set-theoretic analysis is from Allen Forte's The Structure of Atonal Music (93).

Traditional note-values indicate relative structural positions within a structural hierarchy, rather than any rhythmic value. Four values are used: open-headed note with stem (beamed or un-beamed), filled-in note with stem, filled-in note with stem and tail, filled-in note without stem. Pitches which are beamed together are of the highest structural order; whilst the smallest note values represent foreground ornamentation. Structural connections between pitches are indicated by solid slurs, or horizontal arrows; whilst dotted slurs represent 'association' or actual prolongation, occasionally dissonant (94), as well as transfer of register. A note in brackets signifies the expectation of a voice-leading implication. Blues notes (especially thirds and sevenths) are indicated by an oblique line between the competing pitches. The voice-leading

(91) H. Schenker, Der freie Satz (Free Composition) Supplement, p.VIII, tr./ed. E Oster, Vienna, New York, 1935, 1956, 1979. A. Forte and S. Gilbert also offer a standardised version of Schenkerian notation in: Introduction to Schenkerian Analysis, New York, 1982.

(92) F. Salzer, Structural Hearing: Tonal Coherence in Music, vol. 2, p. xiv, New York, London, 1952, 1962, rp. 1982.

(93) A. Forte, The Structure of Atonal Music, New Haven, London, 1973, rp. 1979.

(94) For the arguments concerning 'association' versus actual 'prolongation', and the validity of 'dissonant prolongation', see J. Straus, 'The Problem of Prolongation in Post-Tonal Music', J.M.T., 31:1, Spring 1987.

analysis aims to avoid consecutive octaves and fifths at the same structural level, but, where they do occur, they are indicated by parallel lines, together with the interval in Arabic numerals.

Modes of structural import (background level) are also denoted by open-notes, and small-scale modulatory fragments by filled-in notes. Roman numerals, or figured bass, indicate the chordal identity, together with pitch-class sets where appropriate.

Octave designation complies with the system whereby middle C is c', with one octave below as c and two octaves below as C. When octave position is not specified, the note-name is given in upper case lettering. When a compact form of reference is required, such as in the analytical graphs and occasionally in the text, upper case lettering is also used to identify the pitch centre of a 'major' mode (or triad), whilst lower case lettering identifies a 'minor' mode (95).

Musical examples in the text include short analyses, score extracts and analytical tables and are labelled sequentially as Figures through each chapter of Part II. Each of the eight analyses commences with a formal outline, which includes the number of bars in each section. Despite its obvious limitations, this information provides general guidelines for comparison, given that Milhaud's music is almost always regular in its metre. More extensive graphs, labelled sequentially as Examples, are found in the accompanying supplement and are indexed separately.

* * * * *

(95) The term 'major' mode denotes any mode with a major third interval from its final to third scalic degree: i.e. Ionian, Lydian and Mixolydian. 'Minor' mode denotes any mode with a minor third interval from its final to third scalic degree: i.e. Dorian, Phrygian, Aeolian and Hypo-phrygian.

PART II.

THE FORGING OF A STYLE
AND THE DEVELOPMENT OF STRUCTURAL TECHNIQUES

Focusing on the decade: 1917-1927

CHAPTER 3

EARLY EXPLORATION: CHROMATICISM

> alors j'imaginais, j'entendais une musique d'une extraordinaire liberté...qu'il m'eût été impossible de transcrire. Comment l'exprimer? C'était pour moi un grand mystère dans lequel je me complaisais, comme en un refuge où mon langage musical s'élaborait dans les couches les plus profondes de mon inconscient. (1)

STYLISTIC OUTLINE

This chapter is concerned with the early stylistic 'melting-pot' up to about 1922, and, although the makings of the Brazilian/Jazz-inspired and neo-Classical elements are evident in this exploratory phase, discussion of those elements is reserved for chapters 4 and 5. Even within Milhaud's music before 1922 there is a distinction between works composed as 'apprentice', whilst a student at the Paris Conservatoire, and works between 1918 and 1922, which show a conscious striving for personal identity. The apprentice works are late-Romantic in style, influenced by late nineteenth and early twentieth-century French masters, especially Fauré and Debussy; whereas the slightly later pieces are much more experimental (2).

The apprentice works were influenced by Milhaud's teachers at the Conservatoire, his contemporaries, writer-friends and external events, especially World War I. Milhaud entered the Conservatoire in 1909, aged 17, studying violin and composition; and after two years there wrote his first violin sonata and six hundred pages of an opera! He attempted to interest his harmony tutor, Xavier Leroux

(1) D. Milhaud, M.V.H. p.25. Translated and discussed on pp.33-34.
(2) It is these which are selected for Analyses 1-3.

(1863-1919), in the compositions, who, knowing that Milhaud had little taste for traditional harmony, had agreed reluctantly. Having heard a section of the sonata, Leroux exclaimed: 'You're trying to learn a conventional language, whereas you already have one of your own. Leave the class. Resign!' (3) After this, Milhaud was taught by André Gédalge (1856-1926), Professor of Fugue and Counterpoint, who was an excellent, rather more critical, teacher. His reaction to Milhaud's sonata was :'Why have you got a D# seventeen times on the first page? You don't know how to construct a melody!' (4). Gédalge strongly influenced Milhaud's early music and indeed Milhaud never faltered from the belief in melodic priority. Soon after their first meeting, Milhaud gave up violin lessons and devoted himself entirely to composition. He also attended the orchestration classes of the highly self-critical but great musician, Paul Dukas (1865-1935), and courses taught by Vincent d'Indy (1851-1931) and Charles-Marie Widor (1845-1937).

Milhaud acknowledges the great influence of Debussy's Pélleas et Mélisande and Mussorgsky's Boris Godunov on his early works (5) and it is no coincidence that his early style may be deemed late-Romantic or Impressionist. In particular, Milhaud shares the use of parallel chord-streams with his early 'mentor', Debussy. However, concerning Ravel's music, Milhaud felt regret at not finding the 'same depth of feeling' as he did in Debussy (6). After the first sonata, Milhaud's next work for similar forces, the sonata for two violins and piano (1915), won him the Lepaulle Prize for Composition and was the first chamber work that he did not later repudiate. Yet all these compositions,

(3) Darius Milhaud, M.V.H., p.32.
(4) D. Milhaud, loc. cit.
(5) Op. cit., p.28.
(6) Op.cit., pp.28-9. However, there are still echoes of Ravel's quartet (1903) in the first movement of Milhaud's fourth quartet. Consult Chapter 4, p.161.

including the second violin sonata (1917), are immature, compared with the achievements of the mid 1920s.

Although Milhaud's apprentice works owed much to French musical tradition, his early style was more affected in its serious, Romantic expression by the work of several writers (7). Jammes provided Milhaud with the libretto for his earliest opera, La brébis égarée Op.4 (1910-14) and with the inspiration for his first, unpublished composition: Poèmes de Francis Jammes Op.1 (1910-12) and the further set Op.6 (1912-13). However, the influence of Leo Latil, killed in action in September 1915, is the most striking in Milhaud's early music. His texts produced in Milhaud's music a seriousness and intensity without later parallel. There is also an unashamed Romanticism, with a certain naivety.

Milhaud's memorial to Latil was the third quartet Op.32 (1916), with added soprano as in Schoenberg's second quartet. Apart from the funereal associations: 'Qu'est-ce que c'est que ce désir de mort, et de quel mort s'agit-il? (8), this association with death is also heard in the slow movements of the second quartet Op.16 (1914-15), the fourth quartet, the finale of the woodwind sonata (1918), 'douloureux', and scenes from Les Malheurs d'Orphée, such as XIV: 'Choeur des Funérailles' (1924). This is the dark side of the sunny, Mediterranean lyricist. These movements share an intimacy and unexpected depth of expression, which Milhaud evidently felt was inappropriate elsewhere. Admittedly, there are wistful, subdued sections in La Création du Monde, but never the sense of solitude and despair heard in the third quartet, which, though mixed in quality and too protracted for its material, still rewards

(7) For further detail refer back to Chapter 1, pp.21-2.
(8) 'What is this longing for death and whose death does it mean?', a quotation from Latil's diary,used as the text.

listening and study. This is the gravity and introspective solemnity of Milhaud, before he became known as one of 'Les Six'. In addition to providing the subject and text for the third quartet, Latil provided that for Milhaud's unpublished Op.2: Trois Poèmes de Leo Latil (1910-1916): 'Prière à mon poète...', 'Clair de Lune', 'Il pleut doucement' and Quatre Poèmes de Léo Latil Op.20 (1914).

Milhaud's musical outlook gradually developed, as he sought to explore more radically. As quoted at the head of this chapter: 'mon langage musical s'élaborait dans les couches les plus profondes de mon inconscient'. An important part of the search for stylistic identity was fulfilled by polytonal experiment, partly influenced by Charles Koechlin (9). The second opera of his L'Orestie trilogy, Les Choéphores Op.24 (1915-16) should be mentioned in this connection. Of this work, Milhaud said:

> For each strophe and antistrophe, indeed, I established in most cases a definite line of harmonic research, applying to sequences of chords the technique used for variations. The essential part of the music, however, remained the general melodic line. Even when I studied chords, I only used them to sustain a diatonic melody, remembering Gédalge's advice: 'Just write eight bars that can be sung without accompaniment'. (10)

Similar experimental techniques were used in the third part of the trilogy: Les Euménides Op.41 (1917-22). More extreme were those used in two works of 1920: the fifth string quartet, dedicated to Schoenberg and Cinq Etudes for Piano and Orchestra. Although the latter is not a chamber work, it must be mentioned for its unusual construction:

> The fourth étude, both violent and dramatic in its content, is constructed crab-wise, i.e. the piece is divided into two, the second being an exact replica of

(9) For further detail, refer to Robert Orledge's book, The Life and Music of Charles Koechlin.
(10) M.V.H., p.60.

the first, but reversed. From the mid-point it runs backwards to the beginning. (11)

Parallels have been drawn between Milhaud's attraction to poly-tonality and that of Cézanne, the dedicatee of the first string quartet, to Impressionism. Christopher Palmer considers that Milhaud sought greater linear distinction through poly-tonality, whereas Cézanne sought this through the light and shadow of Impressionism (12). The analogy is obviously not exact, but there is an Impressionist quality to Milhaud's apprentice works, e.g. first quartet Op.5, first violin sonata Op.3 and first chamber symphony Op.43, in terms of texture and timbre.

In his exploration of extreme 'poly-tonality', chromaticism and limited pitch 'series', some of Milhaud's early music moves towards atonality, e.g. the slow movement of the fourth quartet (1918), the third movement of Machines Agricoles (1919) and the first movement of the fifth chamber symphony (1922) (13). It is fascinating to speculate where such interest might have led him, had he not opted for the neo-Classical approach. The final,surprising avenue explored in the search for stylistic identity, represents an interesting anticipation on Milhaud's part. In 1920, Milhaud wrote an unusual chamber piece for three clarinets and soprano, entitled Cocktail Op.69. This was a frivolous work, which owed some of its character to Milhaud's increasing interest in Jazz, but the unusual aspect was that the work was constructed as aleatory 'chance-music'. The music consisted of ostinati, introduced at staggered intervals of time, specified by the composer. This was some forty years before 'chance music' was hailed as a new discovery in the early 1960s. Indeed Milhaud himself only continued this

(11) M.V.H., p.92.
(12) C. Palmer,'Darius Milhaud', in The New Grove, vol.13, ed. S. Sadie, London, 1980, p.307.
(13) Analyses 1-3.

aleatoric style with the Suite de Quatrains (1962), string septet (1964) and Musique pour Ars Nova (1969).

So the overall impression of Milhaud's early (chamber) music is one of stylistic diversity, with aspects of late-Romanticism, Impressionism, radical 'poly-tonal' experiment and aleatoric style, together with the sources of his interest in Brazilian music, Jazz and neo-Classicism. Some works such as the violin sonatas are 'hybrids', with one movement conforming to the late-Romantic style, whilst another contains incipient elements of neo-Classicism. However, the majority of early works are connected beneath the stylistic umbrella of late-Romanticism, as distinct from Jazz-influence or neo-Classicism.

* * * * *

TECHNICAL OUTLINE

Having outlined the main stylistic traits in Milhaud's search for identity, it remains to examine the structural techniques and concepts, from an analytical rather than compositional stance. The function of this outline is two-fold: to provide an over-view of developing techniques (demonstrating breadth of coverage) and to introduce Analyses 1-3. Conversely, Analyses 1-3 illustrate the technical outline. They exemplify the exploratory element of Milhaud's composition - particularly regarding total chromaticism, octatonicism, and the high profile of dissonance. The works are representative of the diversity of genre, and merit extended discussion in their own right (demonstrating depth of coverage). More generally, works (or movements) relevant to exploration include the following:

FIGURE 3.1 EARLY WORKS (Apprentice/Exploratory)

1911	Première Sonate: Violon et Piano. Op.3.(I,II,III).
1916	Troisième Quatuor. Op.32. (String Quartet with Soprano) (I,II).
1917	Deuxième Sonate: Violon et Piano. Op.40. (II).
	(Première Petite Symphonie. Op.43.)
1918	Quatrième Quatuor. Op.46. (II, III).
	Sonate: Flute, Oboe, Clarinet, Piano. Op.47.(I,IV).
	(Deuxième Petite Symphonie. Op.49.)
1919	Machines Agricoles. Op.56. Voice & Chamber ensemble. (III).
1920	Catalogue de Fleurs. Op.60. Voice & Chamber ensemble. (I).
	Cinquième Quatuor. Op.64.
1922	Cinquième Petite Symphonie (Dixtuor à Vent). Op.75.
	(Sonatine: Flûte et Piano. Op.76.)

The number of works here is greater than those for the Jazz-influenced or neo-Classical elements. Although many works were analysed as part of the original research, it was impractical to include most of the data in the dissertation, hence the selection of principal features, followed up by Analyses 1-3. Analysis reveals common techniques underpinning various early works, so that an overall

impression of technical procedures emerges. Foreground and middleground levels are considered together because techniques are often common to both and are distinguished merely by degree. An example is the employment of chromaticism, which can be observed at both structural levels and even at background level, as semitonal relations across a movement or work.

Structural techniques and concepts are not all discussed in the same detail, as some are of far greater significance and interest than others. Chromaticism is again an example of a technique which is prominent, frequently employed and relevant to various compositional phases and is thus of primary importance. Some works are mentioned only in connection with one feature, as their contribution to this technical discussion. Although the exploratory or experimental element is most important between 1918 and 1922, most early works share the priorities of melody, motive and underlying everything a concept of modality. In the outline, principles of large-scale form and modality are followed by more detailed consideration of melodic and motivic processes, third relations, chromaticism and semitonal relations, bi-modality, octatonicism and the place of dissonance and polarity.

* * * * *

The most common early forms are a free, ill-defined rhapsody, ternary form, rondo and particularly fugue - often used as a device within a larger form. Milhaud hardly ever uses variation form and the forms that do exist lack any organic, developmental process of this type. The early forms are invariably over-long and lack clearly directed motion, such as the two slow movements which comprise the third quartet Op.32 (1916). However, there is resourceful variety within a restricted range of forms, especially ternary structures. Although these are limited in the earliest works, the flute sonatina (1922) alone demonstrates two

formal variants. The first movement works to unusual proportions: A [38 bars] B[9] C[30] A'[9]; whilst the finale is a modified sonata form, with two clear subjects and balanced proportions: A [19] B[21] A'[22] Coda [21]. On the whole, the most innovative and imaginative procedures operate at surface level, whilst the larger-scale forms created are less original.

* * * * *

Much of this discussion is concerned with the concept of modality, though this is not so clearly expressed in the early works as in later, neo-Classical compositions. The most commonly found modes are Ionian, Dorian, Aeolian, octatonic and pentatonic (the latter being most prominent in Jazz/eclectic contexts), as in parts of the fourth quartet (Analysis 1). The years up to 1922 show clear progression in the handling of modality. Milhaud's first sonata Op.3 (1911), is very traditional, with an example of the well-tested Beethovenian technique of moving from minor to major tonality: the C# minor of the second movement superseded by C# major in the finale, 'Joyeux'. Five years later, the first movement of the third quartet subscribes to the Dorian mode on D, with occasional introduction of the raised seventh, C#. The overall centres of the movements: (D,C,D) trace a lower neighbour note progression, emphasising the flattened seventh on the largest scale. One example of increasing sophistication is in the use of plagal as well as authentic modal forms, as in the main theme of the Dixtuor à Vent, III, (Analysis 3), where the Aeolian mode is used with 'final' on A, yet with ambitus D-D. Usually a single modal background results from the encounter of 'poly-tonal' lines, though Milhaud's use of complex combinations of up to six composite tonalities in these early years, makes it difficult if not impossible to perceive fundamental lines at background level. The centric nature of a work is rarely in question, but to select an

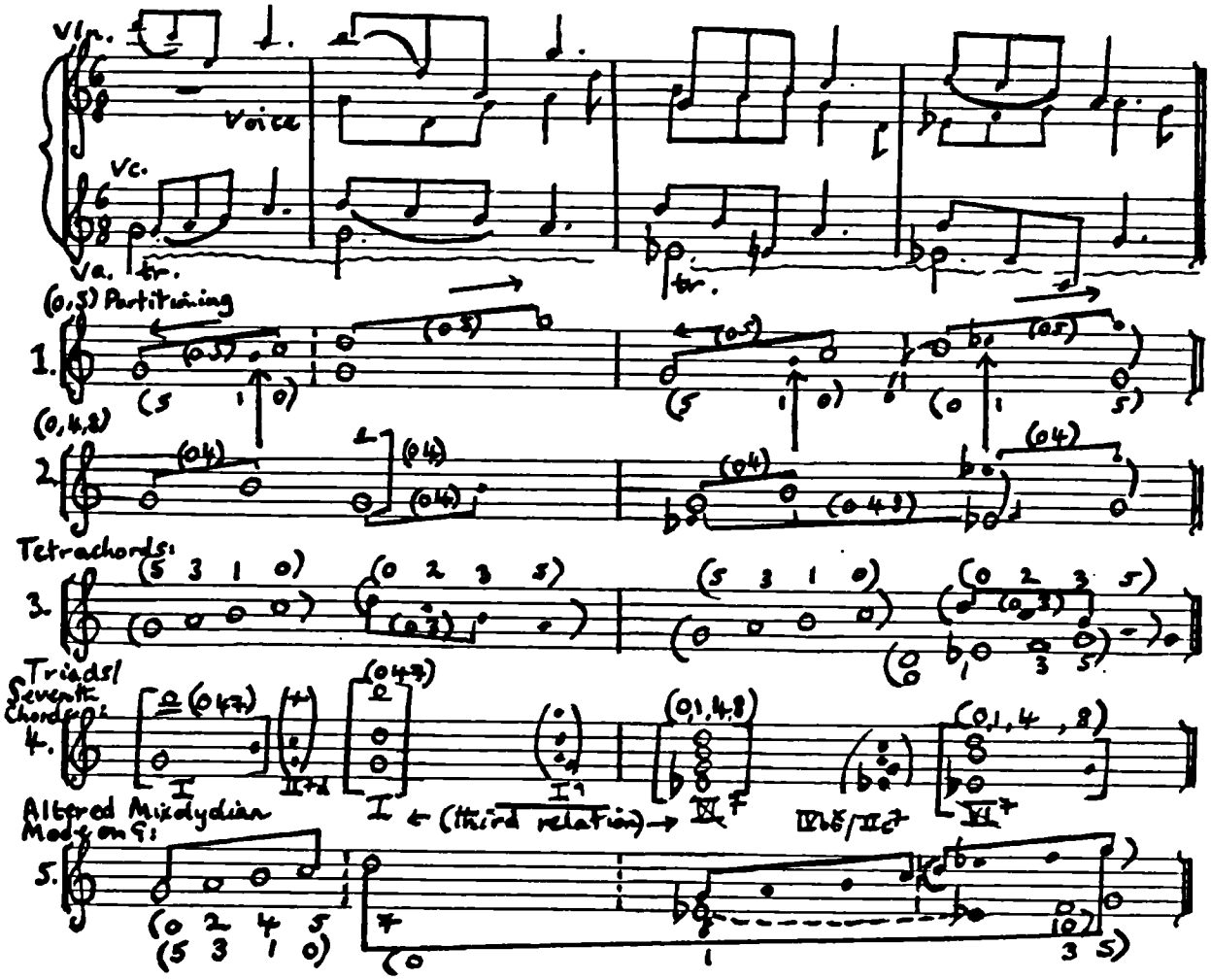
upperline descent is not often meaningful, with a possible exception in Analysis 2: Machines Agricoles (III).

The Altered Mixolydian mode is most prominent in the exploratory phase before 1922, with the scalic form: (G,A,B,C,D,Eb,F,G), almost always on G (14). Relevant works include the finale of the fourth quartet and final song of Machines Agricoles, as well as certain neo-Classical works (15). The opening and closing bars (1-16; 50-64) of 'La Faneuse' from Machines Agricoles are nicely elucidated by means of the model derived from van den Toorn's approach and detailed in Chapter 2. The point is illustrated by reference to bars 1-4, which show the tetrachordal partitioning particularly well: Figure 3.2 (overleaf).

Modality may be clarified or extended by pedal-points, an important middleground feature in Milhaud's early music. The finale of the first sonata (1911) opens with a sustained double pedal in the bass on tonic and fifth degree: (C#-G#), with a similar double pedal occurring within a chromatic ascent in bars 50-52 of the third quartet (movement I). Dominant pedals are equally common from the third quartet onwards, as across bars 68-70 in the second movement, creating expectation of the imminent recapitulation (bar 71). Ostinato can be a means of prolonging a pitch collection, either consonant or dissonant, subject to reinforcement by neighbour-note progressions and other types of voice-leading. Ostinato undergoes considerable development in the 1920s and will be discussed again in connection with neo-Classicism. However it can be detected in incipient form, at localised level, from the first movement of the Sonata Op.47 (1918) onwards. Even there,

(14) This 'new' mode was first mentioned in Chapter 2, pp.81-3.
(15) See Technical Outline of Chapter 5, pp. 229-230.

Figure 3.2 Machines Agricoles, VI, bars 1-4.



the use of ostinato has developed from the simple repetition of inner parts within the first movement of the third quartet. The finale of the Dixtuor à Vent marks a further stage of development (Analysis 3).

* * * * *

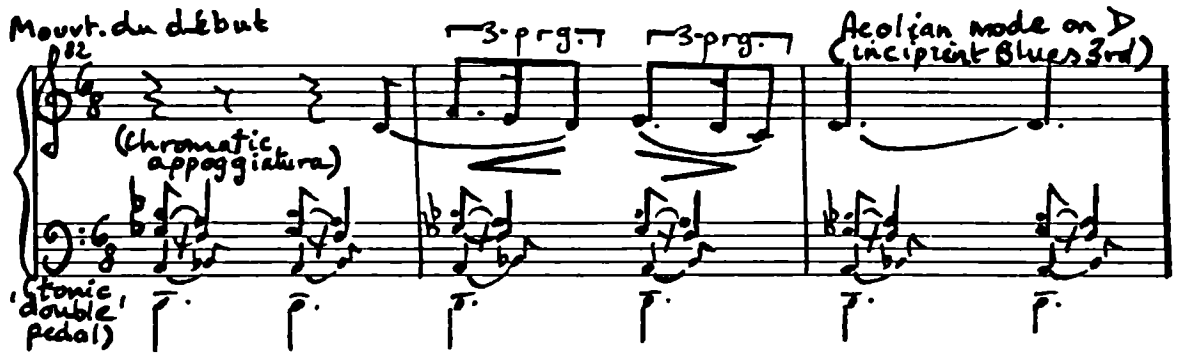
There is a wide variety of melodic treatment in the early works, with some techniques clearly more successful than others. A criticism of Milhaud's early music is that either limited, repetitive material is over-used; or that there are too many disparate ideas, not subject to real development (e.g. fifth chamber symphony [I]). The sonata Op.3 (1911), whose first theme was severely criticised by Gédalge, illustrates the first melodic limitation. In the 'Lent et robuste' in D# minor, Milhaud uses too often a simplistic idea in two halves, heavily reliant on the tonic chord. Clearly, he has not yet gauged the critical relationship between the amount of thematic material and the overall scale of a piece. From the late-Romantic qualities of this work amongst others, one senses the influence of Fauré's violin sonata Op.13 (1876), Franck's sonata in A (1886) and perhaps d'Indy's violin sonata in C Op.59 (1903-4). The limitations of this student composition are evident, yet it does use the technique of melodic/motivic 'exchange', a notion similar to invertible counterpoint, which was to become a hall-mark of Milhaud's style. There are many sequels, including those in the fifth chamber symphony [I].

The third quartet shows a more motivic approach to melodic construction, the second movement focusing on two four-note motives. An ordered whole-tone tetrachord: (Bb-Ab-D-C) (4-21) in the violins, competes against an ascending 'minor' tetrachord: (C-D-Eb-F) (4-10), within a basic modality of Aeolian on C (16). Ultimately, the opposition is between a second whole-tone tetrachord: (C-D-E-F#) (4-21) and a semitonally contracted one: (C#-D-E-F) (4-3), ordered as (E-F, C#-D), between bars 71 and 83 (17). Ideas are

(16) The (4-10) tetrachord is employed later as a pillar-chord: F-G-Ab-Bb in Scene XII of Milhaud's chamber opera Les Malheurs d'Orphée (1924). It is no coincidence that this scene is entitled the 'Lamentations d'Orphée'.
(17) Refer also to p.105.

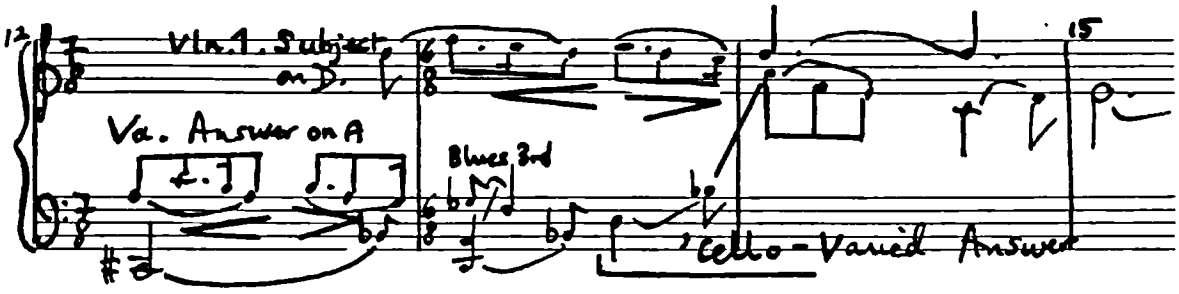
subjected to transposition and some inversion, though the melodic motion is not always clearly directed. Melodic combination is part of the essence of Milhaud's compositional technique and is a specific type of counterpoint where two distinct melodies, introduced separately, are later heard together. Usually the device is reserved for recapitulations, such as bar 82 of the opening 'Très Lent' of the third quartet where the main theme, constructed of two third motives, is combined with a subsidiary 'appoggiatura idea': Figure 3.3:

Figure 3.3 Third quartet, I, bar 82 ff.



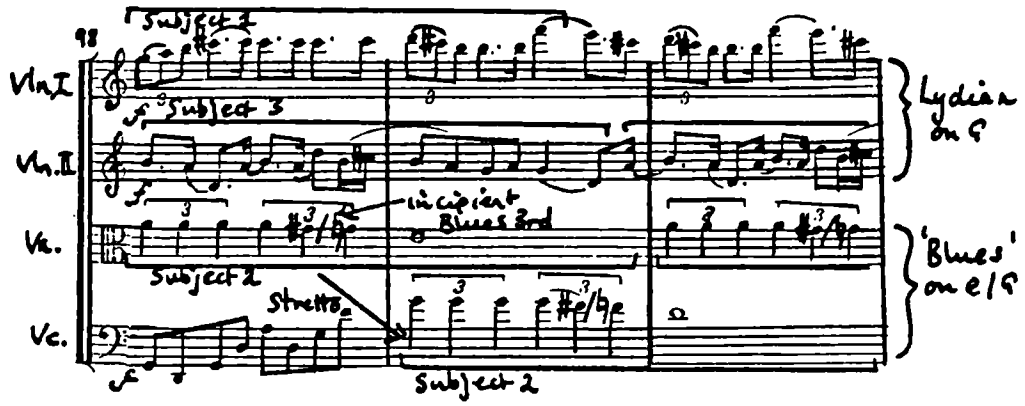
Imitation is closely associated with melodic combination, as found earlier in the same movement of the third quartet (bars 12-15), shown in Figure 3.4:

Figure 3.4 Third quartet, I, bars 12-15.



Melodic combination and imitation can be employed together as in the finale of the fourth quartet (bars 98-100), where three subjects combine with the second subject imitated in stretto, Figure 3.5:

Figure 3.5 Fourth quartet, III, bars 98-100.



In melodic and contrapuntal domains and at all structural levels, third relations play a significant role in Milhaud's music throughout the 1920s. They may occur as melodic third progressions, as found in the opening 'Très Lent' of the third quartet (Figure 3.4), the basis of the material being a third motive with dotted rhythm, heard on the tonic: (D, F-E-D) and answered imitatively on the dominant. This is extended sequentially, using the Aeolian on D: (D, F-E-D; E-D-C, D) and is initially effective, but again is repeated too often either directly or in sequence (Figure 3.3). Equally, third relations may operate within the vertical perspective, such as between two melodic lines in different modalities a third apart. Third relations are increasingly important through Milhaud's early period (up to 1927) and are already evident at background level by 1922, as illustrated by the choice of centres for each movement of the flute sonatina: G#-f-Ab.

* * * * *

Discussion of Milhaud's apprentice and exploratory works must invoke the term 'chromaticism' (demonstrated by Analyses 1-3), in reference to the relationship between non-diatonic pitches and a stong diatonic collection, at a more fundamental level. Chromaticism of various types, including incipient Blues third, is prevalent at foreground and middleground levels. Early works use the same gesture excessively, though some simple devices are effective, such as the descending semitonal appoggiaturas at bars 36, 38, 40, 46-8 of the third quartet [I]. At foreground level, chromaticism exists in dissonant, contrary motion devices, in two, three, four or six parts (18). Further details are given in Analysis 3: Dixtuor à Vent [I] and Analysis 1: 'Funèbre' from the fourth quartet, which also shows conflict as the result of a process of chromatic complementation, in its opening bars. Dissonance is significant as a main structural component in works before 1922, usually as a result of chromaticism or bi-modality.

'Semitonal relations', distinct from chromaticism, implies one of two states (in reference to motivic activity): firstly, one or more pairs of semitones operating in a diatonic collection; secondly, semitones operating in an atonal collection. Neither category should be loosely referred to as 'chromaticism'. The first category is illustrated by the ending of the third quartet, restricted to two ascending appoggiaturas: (E-F,C#-D), which reaffirm the work's overall centre on D. At bars 75-7, for the first time, the voice employs the same pitches as the haunting line about death is intoned. However, the reordering of the motive: (C#-D,E-F) offers a new twist, suggesting a resolution onto the third degree: F. Semitonal relations

(18) The device persists in the second and third 'opéras-minute', for passages of heightened emotion: bars 43-4 in Scene V of L'Abandon d'Ariane (Analysis 7) and bar 154 ff. in Scene VI of La Délivrance, with the text: 'O douleur! O tristesse!'

also play a part in Machines Agricoles (1919) (Analysis 2), and Catalogue de Fleurs (1920). Examples of the second category - semitonal relations within localised atonality - are found in Analyses 1-3. Vertical semitonal relations, especially those within set (4-7): (F#,G,A#,B), constitute important dissonant gestures at foreground level, shown in Analysis 3. Such relations permeate several works, including the second movement of the radical fifth quartet (1920), and continue through to 1927, in works which are stylistically neo-Classical (19).

Semitonal relations at middleground/background level are prominent in Milhaud's early output, the first instance occurring in the 'Très Lent' of the first sonata, as a lower neighbour-note progression. Within the ABA ternary form, the C# minor tonality is converted enharmonically to Db, thence to C minor, finally returning to C# (20). Such relations at middleground level may be observed through the semitonal transposition of whole phrases, as varied repetition: a common device in popular music. In the 'Vif' of the second violin sonata, bars 1-11, in the Aeolian on F, are transposed up to Mixolydian on F# for the recapitulation (bars 89-99). The practice highlights common ground between early exploratory works and the Jazz/Brazilian-influenced repertory, with Saudades do Brazil (1920) and Trois Rag Caprices (1922) sharing the technique. Background semitonal relations across a movement are found in the miniature song 'La Violette', from Catalogue de Fleurs. A (B-C-B) progression operates across its 14 bars, supported by ternary structure. Semitonal relationships between movements

(19) The list includes the opening 'Très Rude' of the clarinet sonatina and scenes V and VI of the first 'opéra-minute': L'Enlèvement d'Europe, bars 109-125, with the impassioned text: 'Ne me retenez pas! Mon honneur outragé!'

(20) It is worth noticing the prominence of enharmonic change itself, another procedure more in keeping with late-Romantic than neo-Classical practice.

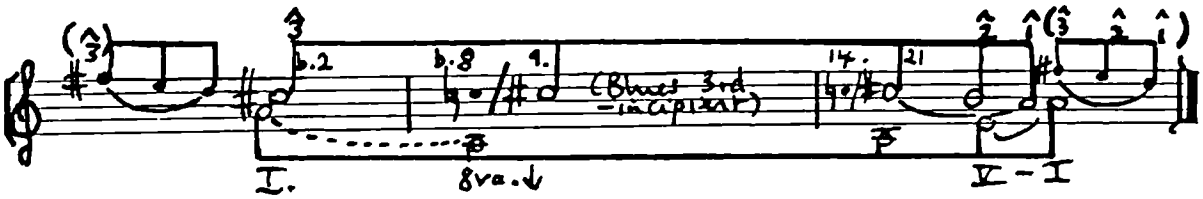
include those in the first chamber symphony (1917): A-Ab-G, the D-d#-D upper neighbour-note progression of the third (1921) and the b-Bb-C ascent of the fifth or Dixtuor à Vent (1922).

Localised 'poly-modality' may itself be a source of polarity and thus of conflict. Some of the most radical poly-modal contexts occur in the early works, as in the attempt to sustain six simultaneous 'tonalities' in Les Choéphores (1915-16). Other illustrations are found in Machines Agricoles, Catalogue de Fleurs and the fourth and fifth quartets. The third chamber symphony is another good example, discussed later in Chapter 5 on the neo-Classical aspect. In Chapter 2, a Classification for Localised Bi-modality was suggested, with a list of factors likely to aid its perception, and it is appropriate now to illustrate these classes, initially with small-scale examples from Machines Agricoles. Bars 1-4 of the first song could accord with the most common Class 1a Absorption: two separate modalities combining to form one, on the stronger pitch centre, producing the Mixolydian on C with Blues third: (C,D,Eb/E,F,G,A,Bb,C). Bars 5-8 illustrate Class 2 (Bi-modality at foreground level) i.e. 'localised bi-modality' with one modality predominant and the other subsidiary. Class 3 (Oscillation/ambiguity at middleground) often occurs in ostinato passages, as in the ensuing bars 10-14. The ambiguity is between C and Ab majors, though the case for C is probably stronger, supported by voice,'cello and piccolo.

There are rare instances when two pitch centres may be construed as operating at middleground level, i.e. Class 3b. The opening of the fourth quartet shows a carefully balanced polarity between centres on F and A, across bars 1-4, 8-11, as a special type of third relation. The effect is enhanced by exchange of material and invertible counterpoint. Although the passage could be viewed within a single F-based

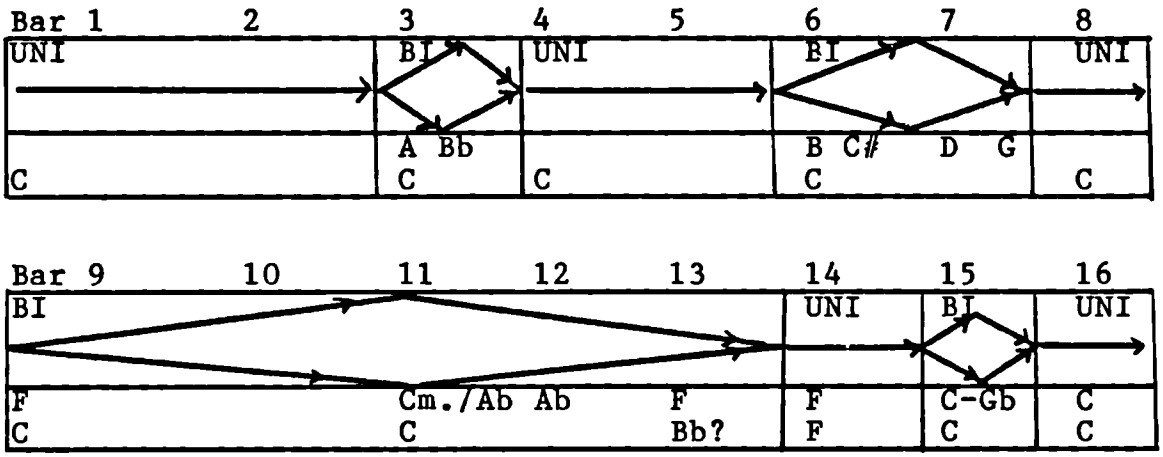
mode, with C# incorporated, or as derived from an (F,A,C#) (3-12) triadic framework, this would not satisfactorily explain the precarious balance and harmonic tension. The fourth and fifth songs of Machines Agricoles also fulfil the requirements of Class 3b, with respective constructs about A/D and G/E. A possible background outline for the fourth might consist of a third descent for the Lydian-tendency mode on A, mirrored by a third descent for that on D, Figure 3.6:

Figure 3.6 Machines Agricoles, IV.



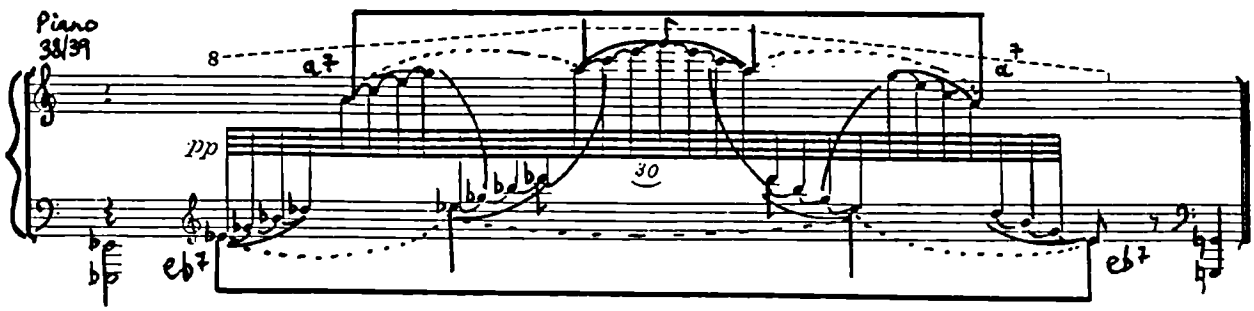
The other catalogue work, Catalogue de Fleurs, contains an excellent illustration of divergent and convergent modalities in the fourth song: 'Les Jacinthes', typical of Milhaud's early music in the way that bi-modality emerges from a single centre, which later reasserts itself. The song is founded on C with a strong 'tonic' pedal, though many incompatible triads, including those on A,Bb,B,C#,D,G,F, Ab,Gb, emerge to challenge, as shown in Figure 3.7.

Figure 3.7 Catalogue de Fleurs, IV.



In the exploratory years (1918-22), tritonal relations are frequently and prominently expressed, as an extreme manifestation of polarity - sometimes part of a more elaborately developed octatonic framework. The earliest example of localised tritonal relations shows simplicity and balance: bars 38-9, 76-7 in the 'Tranquille' of the Sonata Op.47 (1918). The eb7 and a7 chords of bars 38-9 may be viewed collectively as the Octatonic Model A: (0,1,3,4, 6,7,9,10) (Eb,E;Gb,G; A,Bb;C,Db), but ultimately it is the sense of polarity which is important (Figure 3.8). Tritonal relations persist in the second and third 'opéras-minute' and clarinet sonatina, and can be traced in the Brazilian/Jazz domain, through L'Homme et son Désir (1918) (21). More sophisticated octatonicism operates in the 'Funèbre' of the fourth quartet (Analysis 1), and in the first movement of the fourth chamber symphony, with its C-F# opposition. This step towards atonality is further developed in localised 12-note contexts in the 'Funèbre' and the third movement of Machines Agricoles (Analysis 2). A similar procedure operates in the first movement of the Dixtuor à Vent (Analysis 3), where all 12 pitches are introduced across bars 1-3. However, even these contexts have their source in chromaticism.

Figure 3.8. Sonata Op.47, 'Tranquille'.



(21) A tension between C and F# exists throughout Scene II.

ANALYSIS 1

CHROMATICISM AND POLARITY IN THE 'FUNEBRE' FROM THE FOURTH QUARTET OP.46 (1918)

PRELIMINARIES

Composed in Rio de Janeiro in 1918 and dedicated to Félix Delgrange, Milhaud's fourth quartet was regarded by Walter Cobbett (1929) as his most popular of the genre (22). The work was first performed to warm acclaim at the Concerts Delgrange, in Paris, on 5th April 1919, by the Quatuor Capelle. It was also well received at a later performance given by the Pro Arte String Quartet, at the S.M.I. Concerts on 6th January, 1921. When reviewing this performance for La Revue Musicale, Georges Migot declared that:

> C'est une oeuvre d'un réel musicien qui doit encore contrôler quelquefois sa facilité (23).

The quartet has three movements: 'Vif','Funèbre' and 'Très Animé', lasting approximately 9'45'', which Migot viewed as:

> un triptyque dont le panneau central est très developpé et les deux ailes latérales très brèves. Ces deux ailes semblent s'inspirer de la construction du mouvement vif de l'école française du XVIIIe siècle, alors que le mouvement lent procède du lied mendelsohnien. (24)

(22) W. Cobbett, Cyclopedic Survey of Chamber Music, London, 1929.
(23) G. Migot, La Revue Musicale, p.167. My translation: 'A work of a true musician who still sometimes needs to control his facility.'
(24) Loc. cit.: 'a triptych whose central panel is highly developed, whilst the outer wings are very brief. These two wings seem to be inspired by the construction of the "vif" movement (typical) of the eighteenth century French school, whilst the slow movement proceeds in the manner of a Mendelssohnian lied.'

The association with Mendelssohn is arguable, but the 'central panel' is certainly the weightiest and most interesting of the three movements, and as such is the logical choice for detailed analysis. As Migot suggests, the quartet is well proportioned and balanced; material is not over-used, but is succinct and coherent. Despite the fact that Milhaud was only twenty-six at the time of its composition, a consistent style is emerging. The quartet shows the craftsmanship of a maturing musician, with many of Milhaud's compositional hall-marks already present. Since this is one of his first mature works, it has been chosen as the earliest representative example of his chamber music before 1930. The analytical approach consists of a mixture of voice-leading and set-theory (used especially to examine processes of chromatic complementation), modal partitioning and octatonic axes, derived from van den Toorn and Straus.

* * * * *

ANALYSIS

The form of the 'Funèbre' is a ternary variant: AA'BCA, which is outlined in Figure 3.9, overleaf. The movement operates within an overall modality on D. The characteristic surface feature of this elegiac slow movement is the all pervasive dotted figure, with its funereal association, first assigned to violin II. Accompanying this is an equally unrelenting 'basso ostinato' in viola and 'cello. In the words of Paul Collaer:

> Above an ostinato bass consisting of viola and cello lines that are placed at intervals of the minor 7th and 9th, a march-like motive emerges which gives rhythmic cohesiveness to the entire movement. From time to time it is interrupted by a succession of translucent, ethereal chords... (25)

(25) P. Collaer, ed./tr. J. Galante, Darius Milhaud, 1988, p.195.

FIGURE 3.9: FORMAL OUTLINE: II. 'FUNEBRE'

TERNARY VARIANT: AA'BCA

			Total Bars
SECTION A	Bars 1-16		16
Dotted theme	Bars 1-7	- Violin II	
Counter-theme		- Violin I	
Ostinato		- Viola/'cello	
Dotted theme	Bars 9-10	- Viola	
	Bar 11	- 'Cello	
Link	Bars 12-13		
'Mouvement'	Bar 14		
Dotted theme		- Violin II	
	Bars 15-16	- Violin I	
SECTION A'	Bars 17-27	- Second 'verse'	11
Dotted theme	Bars 17-20	- Violin II (as opening)	
Counter-theme	Bars 17-21	- Violin I (new pentatonic idea)	
Dotted theme	Bar 21	- Violins I and II (reinforcement)	
Link	Bars 22-27	- (1+2;1+2 bars)	
Dotted theme	Bars 24-25	- Featured in 'cello line	
SECTION B	Bars 28-40	-'Au Mouvement' (Chordal)	13
Dotted figure	Bars 28-40	- New repeated figure on 'cello,upper strings chordal	
Dotted rhythm	Bars 36-39	- Infiltrates all parts	
Link:'Très Lent'	Bars 41-44	- Including fragment of dotted theme: violin II, bar 43	
SECTION C	Bars 45-64		10
Link	Bars 45-48	- Chordal	
Fugato	Bars 49-64		
Fugal subject	Bars 49-56	- First stated on 'cello, Semitonal as main dotted theme	
Climax of movement	Bars 65-67	- Opening dotted theme in all parts	
Link: 'Très Retenu'	Bars 67-68	- Link back into Recapitulation	
SECTION A	Bars 69-80	- 'Mouvement du début'	12
Recapitulation	Bars 69-75	- Condensed, varied.	
INTEGRAL CODA	Bars 76-80	- Chordal	

As a starting point, Ex.3.1 gives a poly-modal interpretation of bars 1-3, with centres on D minor/major, e and a 'minors', perhaps offering something close to Milhaud's interpretation. The diatonicism of the material in violin II: (A,B,C,D) (4-10) contrasts with the chromatic lines of viola and 'cello: (D#,E,F,F#,G) (5-1) and (D,Eb,E,F,F#) (5-1), respectively, as the first of several polarities. In fact, the viola/'cello ostinato and the dotted theme of violin II make use of complementary segments of a mode on D (26). The material of viola and 'cello is carefully organised, the two parts being related by a mixture of inversion and transposition. Between bars 1 and 3, the (4-1) and (3-3) sets are exchanged and then transposed from D-Eb and vice-versa. The overall modal perspective is focused on the common pitch D and the chromatic pitches (D#/Eb) are inessential.

The introduction of violin I at bar 5 bridges the upper and lower segments of the mode on D, as shown in Ex.3.2. The dotted theme of violin II is now 'chromaticised'. As with 'cello and viola, the two upper voices are connected by inversion, starting with interval class 11. With the entry of violin I, the modalities of the four separate lines: D/d,e,f,a tend to support the main centre of d, by outlining its triad. Continuing the idea of complementary segments, observed in bars 1-3, the pitch contents of violins I and II between bars 1-7 are exactly complementary: violin I (F,Gb,G,Ab) (4-1); violin II (A,Bb,B,C,Db,D,Eb,Fb) (8-1). This represents the ultimate pitch-polarity and arises through extensive chromaticism.

The principle of inversion is used again in bar 9, the process commencing at interval class 11, as illustrated in

(26) A similar scalic division is employed later in La Création du Monde, Analysis 5A.

Ex.3.3. The chordal transitional passage between bars 12-16 (shown in Ex.3.4) has an octatonic perspective: Model A based on B natural. Set (5-32) is featured four times in bar 12 (and again at bar 23), with (4-28) in the following bar. There is a significant discontinuity at 'Mouvement' of bar 14, with the appearance of the (5-35) pentatonic set, arranged in perfect fourth intervals. However, this provides large-scale unity as a continuing form of reference from the opening 'Vif'. Ex.3.5 analyses bar 12 in greater detail, to highlight the octatonic structure, with the (0,3,6,9), (4-28) framework evident across the four transposed chords. The four pitches:(B,Ab,F,D) with their semitonal transpositions: (C,A,F#,D#) form the Octatonic Model A: (0,1,3,4,6,7,8,10), (B,C,D,D#,F,F#,Ab,A) also used in Machines Agricoles (Analysis 2). A more traditional harmonic interpretation, would acknowledge triadic combination at the minor third interval: (Ab/B), (F/Ab), (D/F), (B/D).

The 'Funèbre' has a verse-type structure, in the manner of a strophic song. A varied repeat of section A occurs at bar 17, where violin I introduces 'new' material which is strangely 'diatonic', compared with the chromatic lines beneath - another instance of diatonic/chromatic polarity. Ex.3.6 shows this further use of the pentatonic mode, Collection 5 on b: (B,D,E,G,A,B), but with in-built ambiguity and sense of 'modulation'. As suggested above, this may connect to the use of pentatonicism in the outer movements, thus unifying the slow movement with the rest of the quartet, despite its being intrinsically far more chromatic. In this 'verse', the compass of second violin's line is extended: the previous span between A and F is modified to A and F#, focusing on the C-F# tritone. The framework is a diminished triad: (A,C,F#), (0,3,6), set (3-10), and is part of a continuing octatonic structure, confirmed by its coinciding with viola/'cello pitches:

(Eb,Gb) in bar 20 (shown in Ex.3.7). The collection is still Model A, as used around bar 12: (B,C,D,Eb,F,F#,Ab,A).

Bars 21-27, which link into section B (bar 28), are examined in Ex.3.8. Most chords here include the set (3-10), with (4-27) also prominent. Set (4-19), important later, is heard on the first beat of bar 21, with (5-32), including the Blues chord (4-17), on the first beat of bar 23. There is conflict between the three upper voices, which still focus on the (0,3,6,9) axes of the Model A, Octatonic mode on B, and the bass-line which, between bars 23 and 27, focuses on the incompatible E and C# pitches. Thus there are three axes: (B,D,F,Ab), (C,Eb,F#,A) and ([Bb],C#,E,G). Ex.3.9 examines the octatonic perspective more closely from the viewpoint of these axes, open-headed beamed notes being used to denote members of the octatonic collection. Axis 1: (B,D,F,G#/Ab) is used most frequently; whilst in the case of axis 3, only the (C#,E,G) pitches actually appear, as the missing Bb pitch is reserved for its important function in section B.

In section B, the separation or polarisation of the upper three lines from the 'cello is maintained by rhythmic unison and chordal figuration. The upper voices feature transpositions of a second inversion (major) triad, beneath which the 'cello assumes a variant of the menacing dotted figure. This is an effective illustration of increasing rhythmic and harmonic tension, reaching its peak, heightened by careful use of register, at bars 37-40. The resultant chords in bars 28-30, 33-36 are considered in Ex.3.10, with the most common sets being (4-27), (4-20), (4-17), and (4-19), previously heard at bar 21. (4-27) could be interpreted traditionally as a (half-diminished) seventh chord, with either major or minor third: (C#,E,G,B) or (F,A,C,D#). Equally important is the diminished triad sub-set, (3-10): (C#,E,G), (A,C,D#), which may be seen as a possible reference set for these bars.

Having viewed the vertical perspective, Ex.3.11 redresses the balance by examining the horizontal perspective of the 'cello line. Another pentatonic collection emerges: (D#,F#,G#,A#,C#,D#) with the focal pitch moving from F# (bars 28-30), to d# (bars 33-36). Above, the upper voices adopt a contrasting Lydian modality on Bb and then on F. The first peak of the movement is achieved across bars 37-40, as shown in Ex.3.12. The distinction between upper strings and 'cello is preserved by use of whole-tone, (4-21) tetrachords: (F,G,A,B), (Bb,C,D,E), (D,E,F#,G#), which contrast with the semitonal (4-1) 'cello set. Two augmented triads implicit in the whole-tone segments: (Bb,D,F#) and (C,E,G#) are important in these bars. This is a development of the initial diatonic/chromatic opposition in the opening bars of the 'Funèbre'.

In bars 41-44, marked 'Très Lent' and detailed in Ex.3.13, the augmented triad assumes a new significance. Through similar treatment to that given to the diminished seventh chord in bar 12, two semitonally opposed augmented triads: (D,F#,Bb) and (Eb,G,B) provide an architectural framework for bars 41-42. The resultant hexachord of these (3-12) triads is (0,1,4,5,8,9): (6-20), still 'rooted' on the pitch-centre of D. The vertical occurrences are of (6-32), as against (5-32) at bar 12. The augmented triad on D is maintained across bars 45-8, which form an introduction to section C, as shown in Ex.3.14. These linking bars hint at a possible triadic resolution, despite the superficial sense of Blues third: F-F#. They use obvious repetition, with the main chordal set being (5-21): (F#,C#,Bb,D,A), together with sub-sets (4-19) and (3-12), all Kh-related to (6-20).

Section C is distinctive in avoiding polarities of pitch or instrumental grouping. This climactic part of the movement is strongly integrative and chromatic. The chromatic fugal subject, based on D across bars 49-52, is first stated by

the 'cello and seems a precursor to the fugue theme of La Création du Monde. The two are connected by the common D centre, the preoccupation with chromaticism - especially at the Blues third: F-F#/Gb - and the choice of 'cello/bass for the first statement, with successive entries at increasingly higher pitches. Ex. 3.15 examines the 'cello line across bars 49-64 and the resultant harmony from the combining of subject and answer. Violin II provides the first 'answer' a perfect fourth higher on G, at bar 53. From the preceding bar 52 to 56, the 'cello descends chromatically, with occasional octave displacement as major seventh intervals. Of greater significance is that the initial pitches of bars 54-57 outline again the (3-12) augmented triad: (F#,Bb,D) .

The 'cello has a moment of repose at bar 57 on the F# pedal, over which are heard the (3-10) sub-sets of an octatonic (4-28) framework (F#,C,Eb) (F#,A,C), as the viola now enters with the subject on C. Moving off F# at bar 59, the 'cello again outlines the augmented triad, now in ascent. The framework is filled in by chromatic passing notes grouped in fours: thus the recurrent (4-1) set. The remaining answer is given at bar 61 by violin I, a further fourth higher, on F. Horizontally, all lines tally with the set (4-1). At bar 61, the 'cello has a reiterated Bb, again part of the augmented triad axis. The chromatic ascending line in the 'cello part of bars 61-64 still features (4-1) groupings, the initial pitches of which outline a second augmented triad axis: (E,Ab,C).

The real climax of the movement occurs across bars 65-67, as shown in Ex.3.16. Bar 65 is characterised by the augmented triad first heard in the preceding four bars: (E,Ab,C) with addition of Eb in violin I, producing (4-19). In bi-modal terms, this bar combines centres on E and Ab, thus the favoured 'major 3rd' interval. Drama is heightened by the sudden rhythmic unison of all four voices on the dotted

figure and by the forceful, 'fortissimo' dynamic. These bars leading into the recapitulation are unified by the continued prolongation of (3-12): (E,Ab,C) as a horizontal framework, still filled in by the (4-1) chromatic sets. (4-19) remains the vertical reference set, with bar 65: (E,Ab,C,Eb); bar 66 [beat 3] (G#,C,E,G), and bar 67 [beat 3] (C,E,G#,B). Set (4-19) was also relevant in bars 21, 35-36 and 46. In bar 68, the 'cello descends through the (3-12) triad: Bb-F#-D. The re-sounding of this D pitch has been carefully reserved for the start of the recapitulation.

The recapitulation is a much condensed version of section A, typical of Milhaud's procedure in other early chamber works, e.g. Machines Agricoles. Bars 69-72 approximate to bars 2-5, though the viola and 'cello parts of bar 70 are, in fact, the same as were previously used at bar 8. Melodic sequence is used in preference to exact repetition in bar 73, now marked 'cédez'. The sequence, with its inversional procedure between violins I and II, is detailed in Ex.3.17. It is worth noticing that D is the only pitch which does not appear in either of these sequential devices, being reserved exclusively for the 'tonic' pedal on 'cello. Again the pitch contents of violins I and II represent complementary, polarised segments.

Before discussing Ex.3.18, it is appropriate to mention the complementary motivic analysis, offered in Ex.3.19. The style of melodic writing in this slow movement lends itself well to the paradigmatic layout adopted here, which in turn illustrates the process of gradual development, variation and transformation of motivic fragments. Closely linked with the melodic identity of these motives is their rhythmic identity. There are specific rhythmic patterns restricted to certain themes, instruments and parts of the movement. The omnipresent dotted-note presentation of the main theme needs no further amplification. However, one should mention the

duplet/triplet conflict in the main viola/'cello material, labelled B1, since this conflict serves to enhance that which exists between the pitches. The remaining subsidiary motive, labelled B2, has a more straightforward identity: crotchet plus two or more quavers, and is highlighted in the fugato section C. Another feature elucidated by a paradigmatic layout is the importance of register. Milhaud uses registral transfer as a special effect, to vary repetition and to provide increased angularity and melodic contour, as in the fugato. At other times, a gradual ascent through registers is used to increase harmonic tension, as with the ascent of over two octaves for the 'cello climax, between bars 28 and 41.

The last six bars of the movement (five of which form a short coda) are considered in Ex.3.18. In the pentatonic pitch content of violin I (bar 75), allusion is made to the second 'verse', which began at bar 17. The coda itself explores the harmonic area whose reference set might be (5-21): (C#,D,F,F#,A), i.e. chord I7, with Blues third treatment - at an early stage of development in Milhaud's writing. This reappearance of (5-21) provides unity with the linking bars 45-8. The emphasis is still on a simultaneous, harmonic clashing of major/minor third, as opposed to the more subtle, Jazz-like 'bending' of the third degree. The critical minor/major triad (4-17): (D,F,F#,A) emerges as a Kh-related sub-set of (5-21), heard in bar 76 (with the C#), on the first beat of bar 77 (without the C#) and as the final sound of the 'Funèbre'. As the 'bass' of these chords, the 'cello part of the coda bears affinity with that of section B (bars 28-30). By means of this cross-referencing, the movement is successfully unified. Even in these final bars, the 'argument' that occasioned the movement is not totally resolved. Paul Collaer expresses well this sense of denied repose:

> The tension is finally held by an appealing call on the 'cello, which drives the harmony towards a resolution that is desperately sought after, but which is not granted (27).

CONCLUSION

The fourth quartet exhibits a wide range of scalic structures, including Ionian, Lydian, pentatonic, incipient Blues and localised octatonic modes (of Model A). The pentatonic mode is used to achieve structural unity, by connecting the central 'panel' with the outer 'wings'. The characterising intervals of the pentatonic mode are the major second and minor third and, significantly, the pitch centres of the movements comprise these intervals: (F,D,G) (0,2,5), set (3-7). An awareness of octatonicism provides a continuing structural framework, where conventional terms of reference fail. The Model A collection first appears in bar 12 and returns in bars 17-27, but is implicit across a larger time span. In addition to the diminished triad framework: (3-10), extended to (4-28) and often an indication of octatonic activity, the 'Funèbre' uses an augmented triad framework: (3-12). This offers an important source of reference across bars 41-69 and is also relevant in the opening 'Vif', concerned with (F,A,C,C#) and the final 'Très Animé', concerned with (G,B,D,Eb) i.e. set (3-12), extended to (4-19). The (4-19) set is also important in its own right. In the 'Funèbre', the octatonic tetrachord: (B,D,F,Ab) and the augmented triad: (D,F#,Bb) preserve the centre on D, though there is inherent conflict between F/F# and B/Bb. Such conflict is part of a complex process of complementation and polarity.

Rhythmically too, ideas taken to their extreme in the 'Funèbre', e.g. dotted-note patterns, are discernible elsewhere. The opening 'Vif' features a simple, lilting

(27) P.Collaer, Darius Milhaud, 1982, p.312, my translation.

crotchet-quaver pattern, leaving scope for rigorous characterisation in the 'Funèbre' as dotted semiquaver/ demisemiquaver and the augmentation of four times: dotted crotchet/quaver. The latter pattern continues in the finale, which also features diminution at halved duration: dotted quaver/semiquaver.

The attention paid to details of pitch and rhythm contributes to the success of this central movement and indeed to that of the whole quartet. The 'Funèbre' illustrates well the varied features of the late-Romantic/exploratory phase, founded on chromaticism, with a definite interest in exploiting polarity. This movement also suggests that the seeds of Milhaud's developing interest in Jazz were already sown. Thus analysis of the 'Funèbre' provides an appropriate starting point to an investigative study of Milhaud's chamber music in the 1920s.

* * * * * *

ANALYSIS 2

CHROMATICISM AND OCTATONICISM IN 'LA LIEUSE', FROM MACHINES AGRICOLES OP.56. (1919)

PRELIMINARIES

Machines Agricoles was composed in Aix-en-Provence in 1919, and was first performed at the 'Concerts Sect. d'Or', in Paris on 6 March 1920, with the soprano Madame Vie and ensemble conducted by Félix Delgrange (28). One wonders whether this set of six pastorales for voice and seven instruments, lasting about twelve minutes, is a witty satire in the same spirit as Walton's Façade (1923), or a serious celebration of harvest, as Milhaud would have us believe. Perhaps it can be both. Whatever the answer, Machines Agricoles is one of Milhaud's most unusual, experimental works, both stylistically and technically. Milhaud explains the background to the piece and its companion, Catalogue de Fleurs (1920), in a chapter entitled 'Musique d'Ameublement et pour catalogue' in Ma Vie Heureuse (29). The inspiration for Machines Agricoles stemmed from visiting an exhibition of agricultural machinery:

> I had been so impressed by the beauty of these great multi-coloured metal insects, magnificent modern brothers to the plough and scythe, that I thought of celebrating them in music (30).

(28) Details from Catalogue compiled by Madeleine Milhaud, in P.Collaer/J.Galante, Darius Milhaud, San Francisco, London, 1988.
(29) 'Musique d'Ameublement et pour catalogue': 'Background-furnishing and catalogue music', Chapter 16 of D. Milhaud, M.V.H., pp. 103-5.
(30) Loc. cit.

Milhaud goes on to say that he composed a small Suite 'in the style of my little symphonies' (31), with the original ordering of songs quoted in Ma Vie Heureuse differing slightly from that in the published score: II, III, IV, I, V and VI (32).

Two writers offer usefully contrasted views of Machines Agricoles, the first being Martin Cooper, who suggests that the work has a:

> strong pastoral vein, combined with the objective impersonal style of a shop catalogue, which it was fashionable to exalt at the expense of the hermetic poetry of the symbolists (33).

He asserts that Milhaud is deliberately embracing the symbols of modern life, in a defiant, aggressive manner (34). I consider Cooper's response rather too serious and that wit and sophisticated humour also have a role to play. The second writer, Malcolm Hayes, would support a more light-hearted interpretation as evidenced by his delightful, if irreverent review, published in The Listener:

> Some settings from a catalogue of agricultural machinery, suggesting some wonderful uncharted regions of music theatre - members of the Nash Ensemble driving an assortment of reapers, mowers and drain-diggers around the stage of the Queen Elizabeth Hall (35) !

Athough Milhaud would doubtless have taken exception to Hayes's attitude, I am sure that Hayes is right to bring to

(31) D. Milhaud, op. cit, pp.103-5.
(32) Loc. cit.
(33) M. Cooper, French Music, from the Death of Berlioz to the Death of Fauré, London, 1951, p.190. Cooper rightly suggests Machines Agricoles marking the start a 'fashion' in the 1920s, followed by such works as Antheil's Air-plane Sonata and Poulenc's La Voix Humaine.
(34) M. Cooper, loc. cit.
(35) M. Hayes, The Listener, 6 February 1986, reviewing a contemporary South Bank performance.

our attention this implied aspect of music-theatre within Milhaud's work. Milhaud himself complained that none of the critics writing at the time of the first performance understood what had inspired him to create the work. He parallels his intention in Machines Agricoles with Honegger's desire to glorify a locomotive in Pacific 231 and Fernand Léger's exaltation of machinery in the sphere of painting (36). Contemporary critics cited Milhaud's work as evidence of his tendency to 'leg-pulling' and eccentricity, to which Milhaud retorted that he could not see why it should be imagined 'that any artist would spend his time working, with all the agonising passion that goes into the process of creation, with the sole purpose of making fools of a few of them' (37).

Clearly, it is simplistic to subscribe to either extremity of view. However, Milhaud's apparent denial of the innate humour of the work is curious. Irony abounds, from the first incongruous juxtaposing of the ideas of machinery and pastorale. The music itself is 'mechanistic' in its employment of predictable 'devices', such as exchange of material between instruments, in the first and last songs. The text too seems to invite a light-hearted theatrical approach: 'it is the truly economical drainage' (38)! Surely, there is significance also in the dedications to Jean Cocteau and the members of 'les Six'. The opening song: La Moissoneuse Espigadora, is dedicated to Cocteau, that master of neo-Classical wit.

(36) D. Milhaud, M.V.H., p.105.
(37) Loc. cit.
(38) Quoted from the fifth song: La Fouilleuse-Draineuse (The Digger-Drainer).

The third song of the set: 'La Lieuse', or 'The Binder', dedicated to Francis Poulenc, has been selected as perhaps the most interesting. It will be approached by means of a mixture of post-Schenkerian voice-leading and set-theory (particularly in order to investigate processes of chromatic complementation), together with octatonic partitioning, derived from van den Toorn.

ANALYSIS

Since the text is an integral part of the work, it is appropriate to consider this first. In fact, this setting of a section from the catalogue sometimes contradicts the natural stresses and importance of particular words. The effect is intentionally artificial. The voice is used as another instrument of the ensemble, with the text almost incidental. The result is similar to that in Walton's Façade, where it is the sound and rhythm of the words, rather than their meaning, which matters most. In terms of balance, the singer has to work hard to be heard against the seven instruments, which include piccolo in its upper register. The text, divided into two parts, is as follows:

> Le bati principal est entièrement en acier cornières et tubes carrés; ce genre de tube a été employé parce qu'il offre plus de resistance à la torsion. Les chaînes sont extraordinairement fortes et durables et chaque d'elle est essayée à l'usine sous une traction considerable. Les rabatteurs ont un vaste champ de développement. Ils peuvent être relevés pour la coupe des récoltes hautes ou abaissés quand le blé est versé ou tourbillonné. Les diviseurs peuvent se plier. Ce qui est une commodité quand il s'agit de transporter ou de remiser la lieuse.
>
> Grâce à son tendeur, la durée de la toile de la platforme est prolongée. Les leviers sont convenablement placés, le levier d'inclinaison et le levier des rabatteurs sont sur l'avant entre les jambes du conducteur, le levier du lieur est à droite sous la main. Le levier du tablier est à droite du siège. La lieuse peut être élevée ou

baissée au moyen de disposatif placés a cet effet à la roue motrice et à la roue a grain. (39)

In 'La Lieuse', the harmonic language of chromaticism and polarity previously encountered in the 'Funèbre' of the fourth quartet is developed further. This short ternary structure of regular 4/4 metre, marked 'rythmique', contains some passages of surprising harmonic angularity. On the large scale, two sections centred on Bb are separated by a predominantly fugal, central section ('Moins vif'), loosely based upon the semitonal, upper auxiliary of B natural. A formal outline is given in Figure 3.10 overleaf.

Before discussing pitch structure in detail, it is helpful to consider texture, since modal diversity in this piece owes much to the textural diversity of superimposed, yet far from wholly unintegrated, contrapuntal strands. At the extremities of pitch, the piccolo usually doubles the bassoon at four octaves' distance! This occurs during both the opening and closing bars, where the upper voice seems to be the more important of the two. Placed between them, the

(39) My translation: 'The main chassis is entirely of steel, with corner-irons and square tubing; this type of tubing has been used because it offers greater resistance to torsion. The chains are extraordinarily strong and durable and each of them is factory-tested under considerable traction. The reels have vast scope for development. They can be raised up for cutting tall crops or lowered when the corn is flattened or wind-swept. The dividers can be folded up, which is convenient when it comes to transporting, or putting the Binder away.

Thanks to its adjustability, the span of the canvas platform can be extended. The levers are conveniently situated, (both) the lever for inclining and the lever for the reels are in front between the legs of the driver; (whilst) the binder lever is at the right under the hand. The shutter lever is to the right of the seat. The Binder may be raised or lowered by means of devices positioned for this purpose (both) at the driving wheel and at the grain wheel.'

clarinet has a largely independent and ornamental part. The voice occupies both the middle of the pitch range and of the score layout and is again largely independent, though occasionally supported by the violin doubling an octave higher.

FIGURE 3.10. FORMAL OUTLINE: 'LA LIEUSE'

TERNARY FORM

		Total Bars
SECTION A	Bars 1-12	12
Incipient Blues mode on Bb		
Sub-divisions of phrase:	Bars 1-5	
	Bars 6-9	
Arrival on B natural	Bars 10-12	
(dove-tailing of sections)		
SECTION B 'Moins Vif'	Bars 13-26	14
Modality centred on B natural		
First part of fugato		
Sub-divisions of phrase	Bars 13-15; 16-19	
Second part of fugato	Bars 20-26	
No real centre: both B & Bb		
(Ambiguity)		
SECTION A'	Bars 27-34	8
Return to incipient		
Blues mode on Bb		
INTEGRAL CODA	Bars 32-34	

In the string group, violin and viola are often paired, opening with superimposed fifths: (D,A,E), set (3-9). 'Cello and double-bass have their own independent identities: the bass especially is striking, focused upon Bb yet with a prominent F# (40). The intervals are decidedly angular, mainly major sevenths and ninths. The opening texture is dense, with considerable rhythmic repetition and conflicting patterns, typical of Milhaud's chamber music composed before 1920.

(40) This initial attention to detail at foreground level, emphasising (Bb-F#), supports the later middleground reference pitches suggested in footnote 42, p.131.

Much of the pitch activity in 'La Lieuse' can still be perceived in terms of post-Schenkerian voice-leading analysis, as demonstrated by Exs.3.20-3.21. Some sense of pitch priority is usually preserved, whether within chromatic, pentatonic, octatonic or other modal contexts. Certain traditional formulae are encountered: neighbour-note, third and fifth progressions, occasional prolongation and cadence, albeit unorthodox. A sense of hierarchy remains, even though the voice-leading analysis is not strictly reductional. There is still a clear distinction between the harmonic background and more immediate foreground. It is possible to offer an overall voice-leading structure for 'La Lieuse', as suggested in Ex.3.21, with a descent from $\hat{3}$: (d'''), which involves modal 'mixture', though the progression can never hold the significance of the 'fundamental line' or Urlinie within a Schenkerian context. However, it may be that the concept of a referential pitch collection, such as the ostinato (A,Bb,F#,G), set (4-3), actually proves more helpful in attempting to characterise the movement.

Modally, the most important collection in Sections A and A' is an incipient Blues on Bb, involving much chromaticism: (Bb,C,Db/D,Eb,F,F#/G,Ab/A,Bb). 'Incipient' is used to stress that the mixture at the third degree is relatively undeveloped compared with its culmination in La Création du Monde. Nevertheless, 'La Lieuse' uses the Blues mode more authentically than any other song in Machines Agricoles. In more localised contexts two octatonic collections are relevant: Model A, (Bb,B,Db/D,E,F,G,Ab,Bb), (0,1,3,4, 6,7,9,10), especially when concerned with the lower segment: (Bb-F); and Model B, (Bb,C,Db,Eb,E,F#,G,A,Bb), (0,2,3,5, 6,8,9,11), when concerned with the upper segment: (F#-Bb). In addition,there are bars subscribing to the Aeolian on Bb, both with and without Blues third (bars 33-34 and 7 respectively).

The balancing opening and close of 'La Lieuse' are detailed in Exs. 3.22-3.26. The first interpretation of the opening bars, Ex.3.22(a), establishes Bb as the indisputable pitch centre, within a Class 1a harmonic context (41). The incorporation of set-theory in Ex.3.22(b) produces clear patterning, with the (6-33) set of bar 3 seemingly the most appropriate reference set, encompassing (5-29), (4-23) and (4-26), within a Kh-relationship. The pitches of set (6-33), (Bb,C,D,E,G,A), are usually arranged so that perfect fifths predominate. However, one of the most important 'sub-sets' is excluded from (6-33) because of its F# pitch: the bass ostinato set (4-3), (F#,G,A,Bb). The final three bars 32-4 also make use of (6-33), shown in Ex.3.23(b), but the problem of its non-compatibility with set (4-3) persists. From an outline of referential pitches, it becomes clear that the concluding bars particularly may be elucidated by an octatonic interpretation, based on the framework: (0,3,6,9), (Bb,Db,E,G).

Exs.3.24-3.25 investigate further the octatonic possibilities in the opening and conclusion. Generally Model A (on Bb) proves more useful than Model B (on Bb), since it preserves the Db/D oscillation. The incompatible pitches are indicated in parenthesis on the graph and must be regarded as chromatic, 'foreign' notes, in relation to the given octatonic collection. Bars 1 and 3 (Ex 3.24) are divided between Model B and Model A in terms of bass and treble, respectively. Model A in the treble permits D natural, but not F#, or the leading-note, A natural. The conflict between the two collections in bar 1 occurs because of the prominence of (D,F#,A) and the fact that (D,E,F#) is

(41) Class 1a suggests that one centre predominates (i.e. Bb), but that other modalities have been absorbed within it. For further detail, refer to the section on Bi-modal Classification in Chapter 2, pp.84-85.

incompatible with either collection. One shortcoming of the octatonic interpretation is that it fails to give due weight to third progressions: (D,E,F#), bar 1; (Bb,C,D), bar 2. Certainly in bar 1, there is a case for a 'new' mode with a whole-tone perspective: (Bb,C,D,E, F#,[G,A],Bb). By bar 2, this is modified to a Lydian mode on Bb with Blues third and fourth: (Bb,C,Db/D,Eb/E,F,G,A,Bb) and by bar 3, to one with Blues third and fifth: (Bb,C,Db/D,E,F/F#,G,A,Bb). Thus modal flexibility is demonstrated within the first three bars.

As for the ending (Ex.3.25), bar 32 holds more in common with Model B, though the octatonic view again fails to explain the importance of (Bb,C,D). This might be better seen as a modified Lydian mode: (Bb,C,D,E,F/F#, G,A,Bb). The final two bars have most in common with the Octatonic Model A, which covers the Db/D movement and the dominant, F, but does not account for F# and the leading-note, A. Interestingly, bars 33-4 also invoke the complementary set (4-28), with the (C,Eb,F#/Gb,A) framework of Model B and are thus almost an amalgamation of both collections. On the large scale, the flexible Blues-type mode: (Bb,C,Db/D, Eb/E,F/F#,G,Ab/A,Bb) probably provides the best point of reference, in combination with set (6-33).

The first part of section B consists of bars 13-19, the opening of which lies within a Phrygian-type mode on B, with incipient Blues third: (B,A,G,F#,E,Eb/D,C,B), shown in Ex.3.26. However, this mode on B is compromised across bars 17-19, when it is challenged by that of the 'third relation': Mixolydian on G, suggesting Class 1a. Alternatively, one could stress the high profile of chromaticism, in the quasi 'note-row', as moving towards a non-tonal Class 4. Eight pitches are presented by the violin across bars 13-14 and 16-17: (1,2,3; 4,5,6,7; 8); (B,F#,G; C,A,Eb/D#,D; E), (8-26), with a superficially Schoenbergian angularity. The few pitch repetitions provide symmetry: e.g.

1,2,3,[2,1]. The eight-note pattern also occurs in viola, with the violin's bars 13-14 reversed: in fact a stricter presentation of these pitches. Three of the four pitches of the complementary set, (4-26), are presented in the clarinet line of the same bars: (F,Ab,Bb), with the remaining C# reserved as a 'leading-note' for D minor (bar 23: double-bass). Thus the music moves both towards and away from tonal allusion. The texture is already imitative, though not as rigorously applied as across bars 20-26. It is interesting that the intersection of the violin theme (8-26) with the Octatonic Model B (on Bb), yields (Eb,E,F#, G,A,C): set (6-27), with the two excluded pitches being the 'tonic' Bb and its mediant: Db. (Conversely, B and D are excluded from the Octatonic Model B on Bb). Thus, these bars achieve maximum contrast, or even polarity, when compared with sections A and A'.

The second part of section B, (bars 20-26), is presented as a strict fugato, accompanying a free vocal line. The instrumental points of imitation always enter on Eb at one bar's distance, shown in Ex.3.27. These bars have the most extraordinary pitch structure within 'La Lieuse', with no clear, overall centre (42). Both B natural and Bb pitches are present, in a type of chromatic 'note-row', first stated by double-bass and derived from its opening figure of section A. The frequency with which major sevenths and ninths occur in the subject is also reminiscent of passages in the 'Funèbre' of the fourth quartet of the previous year. As across bars 13-17, eight pitches are presented before any one is repeated: (1,2,3; 4,5,6,7; 8);(Eb,D,E; Bb,A,G,F#; F),set (8-4). The pattern of pitch-groupings: three, four, plus one, is also identical with the earlier bars, whilst

(42) A possible progression of centres across these bars is: Bb-d-F#-d(Bb), thus outlining the augmented triad - a favoured construct in Milhaud's early music, as used in the fourth quartet.

six of the pitches of set (8-4) are in common with those of (8-26), i.e. (Eb,D,E,A,G,F#). Pitches 4 to 7 are the reversed pairs of the opening basso ostinato: (A,Bb,F#,G), set (4-3). The pitches of the complementary set (4-4), (C,C#,B,G#) follow soon after within the more tonally orientated bars 21-2, though the use of C# is still restricted until its reiteration in bar 23, as the leading-note of D minor. The A major, chord V of D minor, then functions as the 'leading-note' of Bb.

Bar 26 is the most complex bar of the fugato, being the only tutti bar in this section, as well as the final bar before the recapitulation. Exs. 3.28-3.30 seek the harmonic resultant of the fugal voices, starting with experimental use of 'vertical slices' of pitch-class sets in strict quaver units (Ex.3.28). This points out an occurrence of (6-32) on the first beat, clearly a close relation of (6-33) heard in sections A and A', but is not otherwise very helpful. Ex.3.29 offers a second segmentation excluding pitch repetition. A group of 7 pitches is heard at the start of the bar: (C,C#,D,Eb;F,F#,G), set (7-5); followed by 4 of the 5 remaining complementary pitches: (A,Bb,B,E), set (4-6). On the second quaver beat 6 pitches are heard: (A,B,C#,D,E,F), set (6-Z24), followed on the third quaver beat by 4 of the 6 complementary pitches of (6-Z46): (F#,G,G#,A#), set (4-2).

Ex.3.30 attempts a segmentation in terms of the chromatic 'note-row', examining the prime form and its inversion, with their respective interval contents. Reduced within an octave, the main intervallic contents of pitches 1-8, in correct order, follow the pattern (1,2), i.e. that used to construct the octatonic scale. However, even in this apparently atonal context, there are priority pitches, i.e. the grouping (C#,D,E), [pitches 10,3,2], and in particular C#. C# is both the leading-note of D minor and possibly

also the enharmonic Db 'minor third' of the Bb-based recapitulation. The dovetailing into the return of section A' is achieved by the 'cello's placing of the C# pitch on the first beat of bar 27. Thus, what is decisive about bar 26 is its context, which renders the more atonal/set-orientated interpretation less plausible and re-inforces the voice-leading interpretation (Exs. 3.20-3.21).

The ensuing, condensed recapitulation contains no new material, but serves to emphasise the most salient features of 'La Lieuse': the increasing importance of modality, including the incipient Blues scale, as well as the consistent levels of octatonic and chromatic activity.

CONCLUSION

Machines Agricoles, as a whole, makes use of a more varied technical repertory than either Milhaud's Jazz-inspired, or his more clearly neo-Classical, works. This repertory embraces the idiosyncratic, chromatic 'serialism' of the central section of 'La Lieuse', founded on complementation, as well as pentatonicism and the emergence of an Altered Mixolydian mode - with flattened sixth. Machines Agricoles usefully illustrates what Milhaud could and might have gone on to explore, had not the lure of neo-Classicism - already evident in this work - proved too attractive to resist!

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ANALYSIS 3

DISSONANT PITCH-STRUCTURES IN THE DIXTUOR D'INSTRUMENTS A VENT (1922)

PRELIMINARIES

The fifth Petite Symphonie or Dixtuor d'Instruments à Vent, Op. 75, was composed in Vienna and Warsaw during February, 1922. This concise work of only five minutes' duration has three movements, 'Rude', 'Lent' and 'Violent', and is scored for: piccolo, flute, oboe, cor anglais (F), clarinet (Bb), bass clarinet (Bb), two bassoons and two horns (F). The work was first performed in May 1923, by the 'Société Instrumentale à Vent', in Paris, and is dedicated to Marya Freund. Publication was immediately taken up by Universal Edition, who publish the series of six chamber symphonies. The fifth chamber symphony is best understood in the context of the whole series, even though in some respects it stands alone. Milhaud had composed his first symphony in Rio de Janeiro in 1917, before working on the fourth quartet. The fourth chamber symphony or Dixtuor d'Instruments à Cordes is the closest companion piece for the fifth and is only slightly more substantial, at six minutes' duration. It is scored for four violins and two each of violas, 'cellos and 'basses. The sixth and last of the series was composed in New York in 1923, for vocal quartet with oboe and bassoon, and shows increased emphasis on Blues-scale procedures, especially in the finale (43).

Having placed the Dixtuor, or fifth symphony, in context, it should be explained why it is considered in the chapter on

(43) Further details on the background to the six chamber symphonies, together with Milhaud's own views, are given in the first section of Chapter 5, pp. 218-220.

'Exploration'. The reasoning is that though the general notion of a set of chamber symphonies owes much to a neo-Classical aesthetic, the language of the fifth symphony is often idyiosyncratic, or experimental. Although certain features are typical of neo-Classical practice (44), the language is not consistent: the first and last movements are in keeping with the more dissonant, chromatic syntax of the 'Funèbre from the fourth quartet, or 'La Lieuse' from Machines Agricoles; whereas the central movement makes more use of Blues-scale procedures (45).

Paul Collaer discusses Milhaud's style and methods in this fifth symphony and regards it as perhaps the finest of the set, commenting colourfully:

> Le premier mouvement, rude, entrechoque les instruments par des mouvements contraires, houleux. La partie lent est une chose frissonnante, d'une sensibilité inquiète et étrange. Sur de longs trilles s'appuie, comme une respiration oppressée, l'harmonie voilée des bois. La clarinette-basse déroule ses volutes etayées par les bassons et les cors en sourdine.....Le joyeux final retentit de violents piétinements et traduit un sentiment affirmatif, solide, volontaire. (46)

It is difficult to agree that the fifth symphony is the finest of the set: such an accolade is better reserved for the sixth, or fourth. The fifth is an interesting, if flawed work. Nevertheless, it well illustrates Milhaud's early

(44) Further details in Chapter 5, p.215 ff.
(45) Blues-scale procedures are investigated in Chapter 4, pp.163-166, and in Analyses 4 and 5.
(46) My translation of P. Collaer: Darius Milhaud, 1982, p.335: 'The rugged first movement jostles the instruments together, by opposing, turbulent movements. The slow part is a trembling thing, with a troubled and strange sensitivity. The veiled woodwind harmony, like constricted breathing, is supported by long-held trills. The bass-clarinet unwinds its twisted line, supported by bassoons and muted horns....The elated finale resounds with fierce outbursts and conveys an affirmative, solid and determined sentiment.'

experimentation, showing him, as did Machine Agricoles, at a stylistic/technical 'cross-roads' and suggesting other routes (possibly reaching toward atonality), that he might have taken under different circumstances.

The analytical approach adopted is flexible, reflecting the varied nature of the music: a mixture of voice-leading and set-theory (to investigate processes of chromatic complementation), together with octatonic axes (derived from van den Toorn and Straus) and, in the finale, Meyer's 'Implication-Realisation'.

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ANALYSIS I. 'RUDE'

The indication 'Rude' suggests that the movement should have a rusticity and ruggedness in performance. There is no single English equivalent to this term, suffice it to say that the composer requests a quality of sound which is unpolished or unrefined, indeed a little harsh. Such a direction is in keeping with the dissonant nature of the harmony. However, this is still within the bounds of a sophisticated and highly stylised music. In fact, the terms with which Milhaud heads the three movements: 'Rude', 'Lent' and 'Violent' are similar to the sequence employed later in the clarinet sonatina (1927): 'Très Rude', 'Lent' and a final 'Très Rude' (47).

As an analytical starting point, a formal outline of the opening movement is given in Figure 3.11 (overleaf).

(47) Milhaud's fondness for this carefully judged rusticity is also evident through his use of the term much later, in the seventeenth quartet (1950).

FIGURE 3.11 FORMAL OUTLINE: I. 'RUDE'

TERNARY FORM

		Total Bars
SECTION A	Bars 1-10	10
Chromatic modality on b.		
Reference set (4-7): (F#,G,A#,B)		
Introduction of all 12 pitches	Bars 1-3	
Octatonic axis: (G,E,C#,Bb)	Bar 7	
(Use of Bb as 'substitute dominant', also the centre for movement II)		
SECTION B	Bars 11-20	10
Second statement of (4-7) material		
Chromatic, symmetrical patterns.	Bars 15-16	
Anticipatory up-beat to final section.	Bars 17-20	
SECTION A''	Bars 21-29	9
Contracted statement of (4-7).	Bars 21-22	
Continuing principle of semitonal opposition		
INTEGRAL CODA	Bars 23-29	
Repeated cadential formulae		
Sets (4-7) & (4-1):		
Modified octatonic collection		
Conclusion on Blues type chord: (F#,D#,B,D)		

The main emphasis of the analysis is on the nature of dissonance. However, in order to appreciate particular dissonant devices, a general explanation of the musical language is necessary. The language is highly chromatic (as with many of Milhaud's pieces before 1922), but despite the contradictions, the opening 'Rude' is still pitch-centred on B, within an 'extended tonality'. The music has an ill-defined modal quality, with the minor third, D, tending to be more prominent than D#. C is also strongly sustained, for instance in the opening trills on bass-clarinet, suggesting a Phrygian inflexion. However, in conflict with this is an important pitch motive featuring the upper tetrachord of the harmonic minor scale: (F#,G,A#,B), set (4-7).

It is dangerous to classify the type of tonal/modal language too narrowly, because Milhaud is obviously experimenting and broadening his terms of reference, in a way which at times results in atonality. Even if the music was conceived 'polytonally', in horizontal strands, the overall effect, at least on the small-scale, can be atonal. As in the nature of experimentation, the results are not always successful. Pitch relations are sometimes poorly defined and there are probably too many diffuse ideas stated without development, using too many different pitches. An appropriate analogy would be with a painter who introduced too many different colours, rather than exploring the variety of shades that might be obtainable from a more limited palette.

Putting aside the criticisms, dissonance clearly has a high profile, with harmony ranging between mild and strong dissonance. This may occur within contrapuntal and harmonic gestures, often by means of semitonal/tritonal tensions and at both foreground and background levels. Dissonance may be linked with large-scale ostinati, or other smaller-scale patternings. A new departure in Milhaud's early treatment of dissonance is his use of vertical semitonal relations, which can constitute important gestures at foreground/middleground levels, as with the opening pitch collection (F#,G,A#,B), set (4-7), significant in the context of a movement centred on B. This forms a surface-level reference set for the movement, with its expanded form (5-6): (F#,G,A#,B,C), evident between bars 3 and 9. The (4-7) pitch collection is strongly associated with aggressive, violent sentiment in this and other works and often appears as a defiant, accented gesture (48).

(48) In addition to providing a strong source of reference in this opening 'Rude', the feature also permeates later, more overtly neo-Classical works, as mentioned in the first section of Chapter 3, p. 106, footnote 19.

Remaining dissonant pitch-patterns are considered within limited 12-note, octatonic/tritonal and chromatic contexts, respectively. As in the 'Funèbre' of the fourth quartet and 'La Lieuse' from Machines Agricoles, particular 12-note principles (as a form of chromatic complementation) also apply in the Dixtuor. All twelve pitches are introduced in the opening three bars, as shown in Ex.3.31. They are generally organised into semitonally opposed pairs: (F#,G) (A#,B) (C#,D) (D#,E), (0,1,3,4,5,6,8,9): set (8-17), which proves an important source of reference through to the end of the movement. The structure commences with set (4-7): (F#,G;A#,B), and is extended upwards by the fifth pitch: C. Pitches 6 and 7 extend the two emerging chromatic fragments down by a further semitone: (F,F#,G) (3-1) and (A,A#,B,C) (4-1); pitches 8 and 9 then extend the upper chromatic segment up by two semitones: (A,A#,B,C,C#,D) (6-1). Pitch 10 extends the lower segment up by the one remaining semitone: (F,F#,G,G#) (4-1); whilst the final pitches 11 and 12 balance 8 and 9 by extending the lower segment down by the two remaining semitones: (Eb,E,F,F#,G,G#) (6-1).

This process of chromatic complementation is highly systematic and symmetrical. The focal pitches (F#,G) and (A#,B) are flanked on the outside by two groups of three semitones, (Eb,E,F) and (C,C#,D), respectively, about a central point: (G#/A), to form complementary hexachords: (Eb-G#) (A-D) (49). The dissonant reference set (4-7) is restated in bars 10 and 12; after which, in bars 13-15, set (7-1): (C-Gb) emerges, in the main, complementary to (4-7) (50). Across bars 11-15 (the start of Section B), sets (4-7) and (4-1): (C#,D,D#,E), combine to produce two identical

(49) Even in this totally chromatic context, there is a tritonal relationship between the first and last pitches of each hexachordal grouping: (Eb-A), (G#-D).

(50) Again there is a tritonal/octatonic aspect, with (C-Gb/F#): the same pitches are in fact used in this way in the finale.

(4-3) tetrachords: (D#,E,F#,G); (A#,B,C#,D), as a type of modified octatonic collection, observed again later in Ex.3.35. The pitches (G#/A), significant as the previous line of symmetry, are missing until bar 15. Bars 21-22, at the start of the recapitulatory section, use a drastically contracted statement of the main dissonant material: (4-7). The principle is still one of semitonal opposition, within a larger set: (7-6), (F#/G,A#/B,C,C#/D).

* * * * *

Tritonal relations/tensions are prominently expressed in this movement. Such tensions also appear in the finale of this symphony and are common in Milhaud's music between 1917 and 1922 (51), as an extreme manifestation of poly-tonal polarity. Sometimes this is part of an elaborately developed octatonic framework. The first of many dissonant, tritonal references: (E-Bb) is made as early as bar 6, where (major) seventh chords occur simultaneously on E and Bb in clarinets, (with Eb above), the effect heightened by a rare instance of rhythmic unison in crotchets, shown in Ex.3.32. The first occurrence of the (4-28), diminished seventh framework, ordered as: (G,E,C#,Bb), is in bar 7, perhaps as a 'substitute dominant' to B (Ex.3.32). Certainly, the construct is semitonally opposed to B. This is followed across bars 11-15 of Section B by a different occurrence, ordered as: (F#,Eb,C,A). Further references to tritonal/ octatonic issues - relevant through to the end of the movement - are made in discussion of chromatic contexts.

* * * * *

(51) Tritonal relations can sometimes be found in works of the later 1920s. See Technical Outline of Chapter 3, p.109.

In the contrapuntal domain, dissonance commonly exists at a foreground level in Milhaud's music, within chromatic, contrary motion structures, in up to six independent parts (52). A small-scaled, four-part structure across bars 15-16 (Section B), is illustrated in Ex.3.33; followed by a six-part version across bars 19-20, in Ex.3.34. The structure is logically constructed, often commencing and concluding as a voice exchange, and is characterised by symmetry. The progression, from extreme dissonance to relative consonance and back again, is as follows: (4-1),(4-1),(4-10),(4-23);(4-23),(4-10),(4-1),(4-1). Thus there is the sense of mirror image. It should be acknowledged that the nature of the dissonance in, for instance the (4-1) set, is affected by registral placing. Milhaud favours wide, angular spacing of sevenths and ninths, more rarely requiring the harshest close-position spacing.

In the six-part structure (Ex.3.34), there are still four main voices (horns and bassoons), founded on a possible octatonic axis: (Bb,C#,E,G),set (4-28) (53). This axis is the line of symmetry, in a similar manner to (4-23) in the previous example, though (4-28) is not stated twice: (2-3),(4-10),(4-17);(4-28);(4-17),(4-10),(2-3). These four lines are convergent, in contrast to the two additional clarinet lines which diverge from a single C pitch. The harmonic resultant produces the formula: (3-2),(5-2),(6-Z10),(6-30) [including the Kh-related sub-set, (3-2)]. It is significant that the span covered by the bass is the tritone: (Bb-E), after which point the pattern repeats. The centre point of the pattern is marked by the C# pitch, beat 4 of bar 19, thus further evidence of an (0,3,6,9), octatonic-type framework. In examining the pivotal chord

(52) This device does occur, albeit less frequently, in the later 1920s. See Technical Outline of Chapter 3, p.105, footnote 18.

(6-30): (E; G,A,Bb; C#,Eb,E), the importance of tritonal relations is seen to continue: (E-Bb,G-C#,A-Eb). The chord consists of two occurrences of set: (3-2) and its main framework is again (4-28): (E,G,Bb,C#), part of a modified octatonic collection. Basically, this is still a chord on Bb, functioning as a substitute dominant, the addition of clarinets significantly heightening the dissonance. The expectancy produced by the final four bars before the final section: 17-20 is also increased by a two-bar trill for the first horn, on A. Although there was a similar two-part structure in the 'Funèbre' of the fourth quartet, both the four-part and six-part versions represent a new departure, with increased complexity.

* * * * *

The centre on B is re-established in the final section from bar 21 onwards, but is still in conflict with A#: incidentally the chosen pitch for the second movement. From bar 23 onwards, centres a minor third apart are again employed: (B-D)(A#-C#)(G-E)(F#-D#), forming the same (4-7) and (4-1) sets as earlier and producing a modified octatonic collection, with complementary (4-3) segments: (A#,B,C#,D; D#,E,F#,G), (8-17), shown in Ex.3.35. The conflicting C pitch, (the tonic of the finale), is sustained through bar 25 by the second horn and is then extended to outline an augmented triad: (C,Ab,E) across bars 25-28, above which the first horn unfolds a C7 chord. The two coincide at bar 28, once again highlighting the tritone: (E-Bb), (Ex.3.35). The final bar again demonstrates semitonal opposition in an extended 'tonal' context, loosely suggesting a Blues-type chord on B. Set (4-17), the complementary formation of (8-17), is presented as a second inversion, 'tonic' chord: (F#,D#,B,D) - within the larger dissonant set.

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(53) Refer back to the use of this axis at bar 7, p.140.

II. 'LENT'

A formal summary of the 'Lent' is given in Figure 3.12 (overleaf). Semitonal relations in horizontal and vertical planes continue as a dissonant force in this Bb-based central movement, the essential reference set being (5-1), (Bb,Cb,C,Db,D), shown in Ex.3.36. In addition to the polarity of dissonant oppositions, the 'Lent' (and finale) use textural polarity: with opposition of solo and accompaniment, rather like the 'concertino' and 'ripieno' in Baroque concerto grosso. The instruments of the concertino are: bass clarinet, first flute, oboe, cor anglais and clarinet. Bassoons and horns are usually of the ripieno, with some instruments members of both sections.

There is symmetry in the ordering of the semitonal pitch pattern of the opening seven bars (for ripieno): (1234), (2134), (3241), (4231), after which the pattern is reversed. Notable features (in addition to the Blues third/seventh in the bass clarinet line: concertino) are the flattened second degree and associated whole-tone segment (Cb-F), spanning a tritone. A similar process of chromatic convergence is encountered around bar 10, between second bassoon and horns, as in the 'Funèbre' of the fourth quartet: sets (2-4),(3-8),(3-12),(3-8),(2-4), as shown in Ex.3.37. There is apparent bi-modality across bars 20-23, again focused on the tritone, with an Eb pedal on the horn (supported by clarinet and second flute), opposing the Lydian on A centre, above (Ex.3.38). Bar 23 sees a switch to a parallel conflict between Ab and the Lydian mode on D (54). The thirds in similar motion, on flutes (bars 28-30) are grouped so as to highlight the tritonal progression: (C#-A#); (G-E) (used in the first movement), whilst horns and bassoons illustrate a seventh 'chord-stream' with reference set (4-27),

(54) The Triad-Motive, marked by 'theta', is discussed in Chapter 5, pp. 225-229.

FIGURE 3.12 FORMAL SUMMARY: II. 'LENT'

TERNARY FORM		Total Bars
SECTION A	Bars 1-15	15
Opening statement	Bars 1-7	
First theme: bass clarinet, with Blues set (4-4).[See p.166.]		
Chromatic modality on Bb.		
Concertino & ripieno textural division.		
(3 ostinato patterns)		
Move to Gb modality	Bar 11	
Second theme: oboe, then	Bars 11-15	
bassoon	Bar 14 ff.	
SECTION B (DEVELOPMENT)	Bars 16-34	19
Bb basis		
Thematic combination: fl. cl. ca.		
Bi-modality: Eb/A; Ab/D	Bars 20-23	
Second theme: cor anglais, then	Bars 22-27	
clarinet	Bar 27-32	
Ocatatonic axes: (Bb,C#,E,G), (C,Eb,F#,A)		
SECTION A' (RECAPITULATION)	Bars 35-43	9
Material condensed		
First theme: bass clarinet (final appearance)	Bar 39	
Final use of (5-1) set on Bb: (Bb,Cb,C,Db,D). Blues third.	Bar 43	

(shown in Ex.3.39). In conventional terms, a C7 chord ascends chromatically to F#, thus spanning another tritone. There is also a possible octatonic interpretation, with a strong (0,3,6,9) framework, which may be a further connective feature with the slow movement of the fourth quartet. There are two horizontal (4-28) axes in play: Axis 1, (Bb,C#,E,G) (horns, first bassoon, bass clarinet) and Axis 2, (C,Eb,F#,[A]) (second bassoon as fundamental bass). The sustained D and Db pitches on flutes in bars 30-31 respectively, (Ex.3.39), highlight the third relation with the main centre on Bb and suggest mixture (55).

(55) This aspect of chromatic conflict falls within the brief of Chapter 4, Technical Outline, p.163.

The final recapitulatory section runs from bars 35-43, in highly condensed form, with the final chord at bar 43 featuring, for the last time, the all pervasive reference set for the ripieno: (5-1): (Bb,Cb,C,Db,D), illustrated in Ex.3.40. Tonally, one perceives a Bb major/minor ninth chord, with mixture at the third. Thus, the Bb of second bassoon is encircled semitonally by A (first horn) and Cb (second flute); the C may be viewed as leading to the third scalic degree, Db, and the F#(Gb) of bass clarinet as falling semitonally to the fifth, F (first bassoon and clarinet).

* * * * *

III.'VIOLENT'

The finale requires a fierceness and stridency, not dissimilar to that of the first movement; and also continues the concertino/ripieno textural analogy of the second. A formal summary is given in Figure 3.13, overleaf. The finale is centred on C, though not without internal conflict, and is characterised at surface level by a persistent march-like dotted rhythm. The basic mode of the clarinet's theme, with its (4-11) reference set, is Mixolydian on G; yet two, distinct ripieno accompaniment groupings conflict with this: the 'a' and F# centres of flute and piccolo above and the (C-F#) alternating bass pedal below, as shown in Ex.3.41.

The flute/piccolo lines use motivic exchange between bars 2 and 4; whilst the 'block-backing' (56) of bass clarinet and bassoons subscribes to a (3-2) reference set. This set is first heard on (C,D,Eb) and then, tritonally opposed, on (F#,G#,A), forming the extended set (6-30), also used in the

(56) By 'block-backing', I mean a largely homophonic accompaniment section, providing a background against which the main theme is heard.

FIGURE 3.13 FORMAL SUMMARY: III.'VIOLENT'

TERNARY FORM

		Bar Total
SECTION A	Bars 1-13/14	14
Clarinet theme	Bars 1-4,5-9	
Overall modality on C		
Lydian inflection: C-F#		
Concertino versus ripieno	Bars 10-14, as 1-3	
SECTION B	Bars 14/15-24	10
C-F#: horn ostinato		
Clarinet theme	Bars 14-24	
Pentatonicism:	Bars 14-16	
Ostinati (ripieno)	Bars 17-24	
Possible octatonicism: (C,D,Eb,F,F#,G#,A,B,C)		
SECTION A' (RECAPITULATION)	Bars 25-38	14
Main theme: concertino of flutes, oboe, clarinet		
Chromatic ostinato: ripieno	Bars 25-36	
Overall modality on C		
INTEGRAL CODA	Bars 36-38	
Final chord: Blues type on C, with chromatic appoggiaturas		

first movement, one semitone higher. The octatonic perspective is again relevant, at least at localised level, with the Model B collection: (0,2,3,5,6,8,9,11); (C,D,Eb,[F],F#,G#,A,[B],C).

The resultant mode of the separate lines in bars 1-4 is undoubtedly an extended one centred on C; though the suggested octatonic collection on C is not compatible with the G pitch, important in the clarinet line. However, it is unarguable that a process of semitonal opposition, which has operated through the first and second movements, continues in the finale. Further semitonal pairings are evident in the prolonged chords of bars 1-2 and bars 3-4: (4-1), (D/Eb,E/F) (bass clarinet, first bassoon, cor anglais) and (4-3), (G#/A,B/C) (first bassoon, bass clarinet, cor anglais) respectively. Set (6-30) returns between bars 7-9, still divided into its (3-2) groupings and now heard in rhythmic

diminution, thus continuing the octatonic aspect, summarised in Ex.3.41. The clarinet's Mixolydian mode 'modulates' to the Lydian with a C# substitution: (G,A,B,C#) in bar 8, followed in bar 9, by a hint of the Blues on A: (D,C#/C,A), set (4-4) (57). The bass tritone: (C-F#) still dominates (Ex.3.41). There is further exploration of the (C-F#) tritone between bars 14-20, by means of a horn ostinato, of varying length, metric positioning and rhythmic presentation (Exs. 3.41 and 42).

There are five lengths and types of ostinato operating between bars 14-24, but their centres on C,E,G,(Bb), tend to reinforce the overall impression of a centre on C. However, there is increased conflict in bars 20-24, as further evidence of the (C-F#/Gb) polarisation (Ex.3.41), commencing with the second horn entry in bar 20, which traces the Mixolydian on Gb, (Ex.3.41), supported by the clarinet's arpeggio figure in the following bar, viewed enharmonically: i.e. (Ab,Db,Gb,Cb). Once again, the interpretative choice is between a bi-modal passage operating at the tritone; or perhaps more convincingly an octatonic one using Model B: (C,D,Eb,F,F#,G#,A,B,C).

The large-scale dissonant ostinato used in the recapitulatory section of the finale (bars 25-38) is elucidated by Meyer's concept of 'implication-realisation', shown in Exs.3.43-44. The tutti bars 25-36 are controlled by an ostinato involving seven of the ten instruments (ripieno), the exceptions being piccolo, oboe and clarinet and the first four pitches of the flute (concertino), which carry the main thematic material, transposed up a tone to Aeolian on A (ambitus D-D). This ostinato is a fascinating chromatic structure, generated organically. From a single,

(57) This pitch-class set first appears in bar 3 of the second movement, on bass clarinet: (Bb,A,Ab,F).

horizontal chromatic step, a diminished seventh span is finally generated. The ostinato operates semitonally on horizontal and vertical planes. Two bassoons, bass clarinet and cor anglais commence on C#/C; Eb/D; to which are added the two horns: G/Ab, producing a total vertical set of (6-Z38) (58). Each semitonal pair is tritone-related to another: C/C# - G/Ab - D/Eb. These six pitches are skilfully mirrored on the horizontal plane by the flute, within an independent (2 X 2½) -beat ostinato, outlining a C 'minor' triad, embellished by semitonal appoggiaturas: (C db; d Eb; G ab), also (6-Z38).

In explaining the horizontal process of 'implication-realisation', reference is restricted to the bass-line: second bassoon on (C#-D) (Ex.3.43). In order for 'implication' to operate, there has to be repetition, so that the ear has gained familiarity with a particular piece of musical information. Only then is it possible to anticipate the next step of the pattern and for that step to be 'realised'. After the initial (C#-D) progression has been stated, on the strong beat, it is repeated before returning to the familiar territory of the (D-C#): (C#-D-Eb-D-C#). The ostinato has now doubled in length from one to two crotchets. Having added the extra semitonal step up to Eb, the rest of the ostinato's growth process is already logically implied. Exactly the same procedure is then adopted for a second time: firstly, the 'known' material is repeated: (C#,D,Eb). Having followed through the operation once, it is clear that the progression is as yet incomplete and that a further semitonal step is now required. The E is then supplied, so that the 'implication' has again been 'realised': (C#-D-Eb-E-Eb-D-C#), after which the return to

(58) Compare with the F/Gb occurrence in horns, across bars 13-15 of movement I.

familiar territory is made again. The ostinato has now generated a further crotchet's duration, making a total of three beats.

This is 'implication-realisation', or indeed Straus's 'pattern-completion', because there is a sense in which the pattern - as we are familiar with it - is incomplete before the logical addition of each 'new', highest pitch. The process continues until the minor sixth above the (C#-D) is attained: (A-Bb) in bars 35-36, and the ostinato has grown to nine beats' duration, once more starting on the strong beat of the bar. The main stressed pitches in any one line produce a dissonant, augmented triad, set (3-12) - e.g. second bassoon: (C#-F-A), shown in Ex.3.44. There is also a harmonic logic (connected to issues of dissonance) in completing the ostinato at this point. If one takes the four semitonally adjacent appoggiaturas, commencing on (C,C#,D,Eb): set (4-1), with the next stress on the third beat, producing (E,F,F#,G), and that on the next first beat: (G#,A,Bb,B), all twelve semitones have been stated (59). Thus Milhaud has logically employed the chromatic principle. After this the pattern is reversed (60). In order to halt the process, Milhaud returns to the opening statement: (C#-D) and subjects this to repetition. Thus the initial expectation is re-invoked and the listener prepared for a new development: simply the brief coda.

Bars 25-36 are effectively atonal, yet the presence of repeated patterns, particularly in the bass, creates a pedal. The bass C# is prominent and could function as a substitute dominant to the centre on C. Semitonal neighbour-

(59) For the theoretical background, refer back to the marked segment of the Chromatic Matrix: Chapter 2, p.78.
(60) Consult beats 1 and 4 of bar 35, and beat 2 of bar 36.

notes of Bb and C were similarly employed in the opening movement: to encircle and establish the centre on B. Bars 36-8 are a tiny coda, dove-tailed to the ostinato. Bar 36 highlights tritonal relations between the bass and highest pitches: (Eb-A) and (C#-G). Bar 37 involves a more conventionally implied chord V, with clear G and B. The progression then 'resolves' to a C-centred chord: set (6-Z10), (C,d,Eb)(E,f#,G), arranged spaciously across 4½ octaves. The set involves a pattern of whole [2] and half-tone [1] steps: [2-1],[1],[2-1], and consists of two (3-2) sets, the first of which was important at the start of the finale. The essential pitches are those of the Blues chord on C: set (4-17) (C,Eb/E,G), with D and F# functioning as chromatic appoggiaturas to Eb and G, as with the concluding chords of the other movements.

CONCLUSION

The work consists of an ascent from the centre on B, (through the 'Lent' on Bb), to the finale on C, a progression also used later in the clarinet sonatina. Some similarities between the works have already been noted, concerning the character and markings of the movements; others hardly need amplification, such as the appeal of the clarinet to Milhaud in the 1920s. The Dixtuor d'Instruments à Vent is a fascinating (albeit flawed) work of the early 1920s, concerned with the dissonance of semitonal and tritonal pitch relations. The slow movement shows increasing interest in gestures associated with Jazz. In fact, Milhaud visited the United States in 1922, and soon after embarked on his major Jazz-inspired project: La Création du Monde (1923).

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CHAPTER 4

BRAZILIAN AND JAZZ-INSPIRED MUSIC: BLUES SCALE

> Il me fallait...pénétrer plus profondement les arcanes de cette nouvelle forme musicale, dont la technique m'angoissait encore (1).
>
> d'éléments sonores et rythmiques absolument nouveaux ... mais comment les utiliser? (2)

STYLISTIC OUTLINE

This chapter examines Milhaud's eclecticism - his interest in Provençal folk-song, Brazilian popular music, Blues and Jazz, and his awareness of his Jewish heritage. Mention is made of the period spent in Brazil and visits to the United States. Such travels enabled Milhaud to experience these styles at first hand, making it possible for him to assimilate them into his own musical language. Before apparent concern with music from other cultures, Milhaud was interested in that of his native France, often through literary settings; he also had deep respect for his Jewish faith. These interests remain constant throughout his career. The importance of French literature and early settings of poetry by Jammes, Latil, Lunel, Gide and Claudel has already been discussed in chapters 1 and 3. In respect of the influence of Jewish liturgical and secular melody, one can cite the well known Poèmes Juifs Op.34 (1916), Six chants populaires hébraïques Op.86 (1925), Deux Hymnes Op.88: 'Hymne de Sion' and 'Israël est vivant' (1926) and the opera Esther de Carpentras Op.89 (1925-27).

In 1917, Milhaud travelled to Rio, Brazil, as assistant to Paul Claudel, who had been appointed as the French minister there, during his war service. The two artists spent almost

(1) D. Milhaud, M.V.H., p.100. Translated/discussed on p.34.
(2) D. Milhaud, Etudes, p.54. Translated/discussed on p.34.

two years in Rio, returning to Paris in Autumn, 1918. Milhaud was immediately attracted by the native music, which was the subject of his earliest article in La Revue Musicale, 1920 (3). In Ma Vie Heureuse, he explains his fascination with the rhythms of Brazilian popular music:

> Il y avait dans la syncope une imperceptible suspension, une respiration nonchalante, un léger arrêt qu'il m'était très difficile de saisir (4).

The products of the stay in Rio included the first and second chamber symphonies (1917 & 1918), the second violin sonata (1917) and fourth quartet (1918), discussed in Chapter 3. However, the period also produced more strikingly original works,indebted to Brazilian heritage and influenced by the Carnaval of Rio, such as the fantastic poly-metric (and poly-rhythmic) ballet: L'Homme et son Désir (1918). The work is described as a 'poème plastique', and is the first of many successful collaborations with Claudel.

The extraordinary textures in L'Homme et son Désir are created by combinations of solo instruments, hence, even here, the idea of chamber-music. The ensembles include vocal quartet; piccolo, flute, clarinet, bass clarinet; oboe, trumpet, harp and double-bass; string quartet and a percussion ensemble 'with drums of all shapes and sizes, cymbals, rattles, a triangle, a whistle, castanets, whips, and a hammer' (5). Milhaud's purpose was that:

> Je désirais conserver une entière indépendance, aussi bien mélodique, tonale, que rythmique à ces divers groupes. Je mis à execution mes aspirations et sur

(3) D. Milhaud, 'La Musique au Brésil', La Revue Musicale, no.1., 1920.
(4) M.V.H., Chapter 11, 'Le Brésil', p.67. 'There was an imperceptible pause in the syncopation, a careless catch in the breath, a slight hiatus which I found hard to grasp'.
(5) P. Collaer, ed. J. Galante, Darius Milhaud, 1988, p.65.

> ma partition écrite pour certains instruments à quatre temps, pour d'autres à trois, pour d'autres à six-huit etc., afin de faciliter l'exécution, je marquai une barre de mesure arbitraire tous les quatre temps, en ajoutant des accents afin de conserver le rythme authentique' (6).

Later in 1918 appeared a percussive sequel: Deux Poèmes Tupis Op.52. These remarkable songs, still unpublished, entitled 'Caïné' and 'Catiti', were inspired by native Indians of Brazil and Paraguay. The word 'Tupi' refers to the people and the language of this tribe. Milhaud wrote the songs on Indian texts for four womens' voices and hand-clapping, presumably involving his favoured technique of rhythmic ostinati: such was his striking originality of expression in this early period. In terms of this type of percussion, one thinks of Milhaud's best known pupil, the minimalist, Steve Reich (b.1936), who composed his own Clapping Music for Two Players, in 1972.

During his time in Rio, Milhaud heard traditional forms, such as the 'Chôros', tango and samba dances and possibly the Sexteto Mistico of Heitor Villa-Lobos (1887-1959), written in 1917. He was most inspired by the tango and samba, the former being of urban Argentine origin from the turn of the century, appearing in Europe and the United States about 1910; the latter an older dance of Portuguese-Brazilian origin. In Brazil, the samba is a traditional form of carnival music and, authentically, is danced by groups of people in a circle. It has also been popularised in the ballroom, in stylised form and at a more moderate tempo. The tango is its complement, performed at a more relaxed pace.

(6) M.V.H., p.72: 'to preserve absolute independence, tonal and rhythmic, for each of these groups. I realised my desire and in order to facilitate the execution of my score, written for some instruments in common time, for others in triple time and for others in 6/8, I inserted an arbitrary bar-line every 4 beats, adding accents to preserve the authentic rhythm.'

Saudades do Brazil Op.67 appeared in 1920 as the most obvious tribute to Brazilian culture, comprising two sets of six tangos, with the formal characteristics of the dance providing an overall unity. Each tango evokes a district of Rio, Group 1: 'Sorocaba', 'Botofago', 'Leme', 'Copacabana', 'Ipanema' and 'Gavea'; Group 2: 'Corcovado', 'Tijuca', 'Sumare', 'Paineras', 'Larenjeiras' and 'Paysandu'. Each has a different character, despite duplication of structural devices: 'there is elegance in 'Sorocaba', tenderness in 'Leme', and brilliance in 'Ipanema'; and 'Gavea' explodes in rhythm and shattering harmonies before settling into amiable nonchalance' (7). The final 'Paysandu' is, in Collaer's words, 'a serene meditation'.

Many of the productions of the 'Groupe des Six', or 'Les Nouveaux Jeunes', with which Milhaud was associated in the early 1920s, were influenced by Brazilian popular music (and later by Jazz). Cocteau was responsible for the pantomime staging of Milhaud's Le Boeuf sur le Toit (1919), inspired by Brazilian dance material and loosely based on a popular song entitled: 'O boi no telhado'. In Ma Vie Heureuse, Milhaud explains how:

> j'amusai à réunir des airs populaires, des tangos, des maxixies, des sambas et même un fado portugais et à les transcrire avec un thème revenant entre chaque air comme un rondo (8).

The work exists in orchestral form, but also as a Cinéma-Fantaisie Op.58b for violin and piano. It is a light-hearted divertissement, with material repeated too often, but nevertheless evokes successfully the ambiance of the early 1920s.

(7) P. Collaer, op.cit., p.185.
(8) M.V.H., p.86.

The world of Jazz fascinated Milhaud in the early 1920s, and he made several visits to the United States (particularly New York) in 1918, 1922, 1925 (and 1927), to experience Jazz at first hand. However, the first encounter with 'cette école de rythme' was provided in Paris, early in 1918, by the arrival of Jazz-bands from New York (9), followed, in 1920, by the visit of Billy Arnold's Band to the Hammersmith Palace, in London. This latter experience may have been the inspiration for Caramel Mou, written for a Jazz-band of clarinet, trumpet, trombone, piano, percussion and voice (or saxophone), for performance in a show at the Théâtre Michel in May 1921. The style of Caramel Mou, subtitled 'Shimmy', is a curious mixture, reflecting Milhaud's increasing interest in Jazz and the witty Parisian scene, and is dedicated to Georges Auric, one of the short-lived 'groupe des six'. The text is again that of Jean Cocteau and is a period piece of the 1920s:

> Take a girl
> Fill her with ice and gin...
> I knew a man
> Very unhappy in love.

In 'Rencontre avec le jazz' within Ma Vie Heureuse, Milhaud makes comparison with Bach, as he stresses the rhythmic parameter of the music:

> la musique syncopée exigeait la regularité d'un rythme aussi inexorable que celle de Bach (10).

He is intrigued by the improvisatory syncopation and rubato superimposed on this regular rhythmic background. Melody and timbre were also part of the appeal of Jazz:

(9) D. Milhaud, Etudes, p.20.
(10) M.V.H., p.101. 'Syncopated music calls for a rhythm (i.e. rhythmic pulse) as inexorably regular as that of Bach.'

> du trombone lyrique frôlant de la coulisse le quart de ton dans le crescendo du son et de la note, ce qui intensifiait le sentiment...à la ponctuation subtile et complexe de batterie, espèce de battement intérieure, de pulsation indispensable à la vie rythmique de la musique (11).

Milhaud details the instrumental roles of piano, percussion, trombone, trumpet, clarinet, banjo and violin within the Jazz ensemble and is fascinated by the use of glissando, portamento, vibrato, tremolo, oscillation and the variety of timbral expression (12). In his opinion, Blues style merits special attention: 'une mise en valeur remarkable des éléments mélodiques: c'est la période des "Blues".' Again, Milhaud alludes to the idea of 'la mélodie depouillée': melody stripped of inessentials (13). In an abstract and philosophical way, he is also drawn by the sense of 'tragedy' and 'desperation', inherent in much negro spiritual song, as the expression of a people who were much persecuted. As Milhaud acknowledges, the roots of this American negro music are firmly in its native Africa and it is there that one must seek the source of this 'formidable rhythmic force' (14).

Milhaud considered that in the early 1920s most American musicians had not realised the value of Jazz as an art-form. His own views were regarded with some astonishment: 'Milhaud admire le jazz...Le jazz pèse sur les destinées de la musique en Europe ' (15). He became convinced that he wanted

(11) M.V.H.,p.100:'the lyrical use of the trombone, glancing with its slide gliding over quarter-tones in crescendoes of volume and pitch, thus intensifying the feeling... subtly punctuated by the complex rhythms of the percussion, a kind of inner beat, the vital pulse of the rhythmic life of the music.'
(12) D. Milhaud, Etudes, pp.20-21.
(13) Op. cit., p.53.
(14) Op. cit., p.56.
(15) M.V.H., p.114. There is no source cited for this quotation.

to use the timbres and rhythms in a piece of chamber-music (16). However, first he needed to research further and increase his formal and technical understanding, as expressed in the first quotation at the head of this chapter. The answer to the second quotation, questioning how his new knowledge might be used, is surely found in La Création du Monde. With the composition of this piece, Milhaud became one of the first composers to assimilate a variety of Jazz techniques within classical art music. Most had, thus far, confined themselves to 'interpretations of dance music', by recreating the rhythms and set formulae of Rag-time (17). Stravinsky had written his Rag-time pieces and those with a wider range of popular allusions, e.g. L'Histoire du Soldat; but Milhaud went further, incorporating and synthesising elements of the timbre, instrumentation and scalic-forms of Rag-time, Blues and New Orleans styles. He tried to absorb the emotional spirit of Jazz, especially the melancholic, vocal inflexions of the Blues, and, at this time, saw Jazz as a possible catalyst for technical experimentation, making possible new means of musical expression:

> les spectacles de ce genre, de caractère si varié, étaient excellents pour nous, ils nous permettaient d'expérimenter toutes sortes de techniques et de rechercher continuellement de nouvelles formes d'expression (18).

Some years later he disappointed American reporters by telling them that his interest had waned, the reason being that Jazz had become official and won universal recognition (19). He explained that, by 1925, there were even

(16) M.V.H., pp.100,116.
(17) Op. cit., p.100.
(18) Op. cit., p.102.: 'the sights of this genre, of such varied character, were excellent for us, they allowed us to experiment with all sorts of techniques and to research continually new forms of expression.'
(19) Op. cit., p.158.

instructional manuals which dissected and analysed Jazz and that the popularity and explanation denied the music its spontaneous charm. However, in condemning the teaching of Jazz, Milhaud illustrates well his own familiarity with its structure. That he was aware of all the following criteria and may have incorporated them into his music, is most valuable from an analytical stance:

> Les différents moyens d'assimiler le jazz y étaient enseignés, ainsi que le genre d'écriture pianistique et d'improvisation; sa liberté dans un cadre rythmique rigoureux, toutes les échappées, les dissonances de passage, les accords brisés, les arpèges, les trilles, les embellissements, les ornements, les variations, les cadences qui peuvent surgir 'ad libitum' comme un contrepoint d'une fantaisie extrême (20).

He adds regretfully that:

> Même à Harlem, le charme était rompu pour moi! Les snobs, les Blancs, amateurs d'exotisme, les touristes de la musique nègre avaient pénétré dans ses plus intimes recoins. C'est pour cela que je me retirai (21).

Evidently Milhaud does not classify himself as a musical tourist! However, it is a pity that he did not maintain his interest long enough to hear the extraordinary genius of Louis Armstrong, who was emerging at this time.

* * * * *

(20) M.V.H., p.158:'The various ways of assimilating Jazz were taught, as well as Jazz style for the piano, and improvisation, its freedom within a rigid rhythmic framework, all the breaks and passing discords, the broken harmonies, arpeggios, trills and ornaments, the variations and cadences which can return "ad lib." in a sort of highly fantastic counterpoint.'

(21) Loc. cit.: 'even in Harlem, the charm had been broken for me. White snobs, in search of exotic colour, and sightseers curious to hear negro music, had penetrated even the most secluded corners. That is why I gave up going.'

TECHNICAL OUTLINE

The purpose of the technical outline is again two-fold: to survey techniques derived from, or inspired by, Brazilian popular music and Jazz and to introduce Analyses 4-5. Conversely, Analyses 4-5 provide the main analytical illustrations for the outline. 'Ipanema' from Saudades do Brazil (Analysis 4) is inspired by popular Brazilian dance, and is a work briefly mentioned by Milhaud in his chapter on Jazz (22), whilst the two-part analysis of La Création du Monde (Analysis 5A and B) is the centre-piece of the dissertation. Works showing the influence of Brazilian popular music and Jazz are listed below; those in parentheses are also relevant in a different technical connection in chapters 3 or 5.

FIGURE 4.1 BRAZILIAN AND JAZZ-INFLUENCED WORKS

1918 (Quatrième quatuor. Op.46, III)
(Sonate. Op.47: Flute, Oboe, Clarinet and Piano, I)
L'Homme et son Désir. Op.48. Ballet.
1919 Cinéma-fantaisie: Le Boeuf sur le Toit. Op.58b. Violin and Piano.
1920 Saudades do Brazil. Op.67. Piano solo.
Caramel Mou. Op.68. Voice and Chamber Ensemble.
1922 (Dixtuor à Vent: Cinquième petite symphonie.Op.75, II)
(Sonatine pour Flûte. Op.76, I)
1923 Trois Rag-Caprices. Op.78. Piano Solo.
Sixième petite symphonie. Op.79.
(Quatre Poèmes de Catulle. Op.80.Voice and Violin, IV)
La Création du Monde. Op.81. Ballet - 17 solo instruments.
1926 La Création: Suite de Concert. Op.81b. Quintet.

As before, discussion of general principles of large-scale form and modality, including pentatonic, whole-tone, Mixolydian and especially the Blues collection, is followed by more detailed consideration of structural procedures in Milhaud's employment of Jazz, e.g. Blues third/seventh, seventh chordal axes, harmonic riffs, chromaticism, third relations, rhythmic characteristics and metrical structures.

* * * * *

(22) M.V.H., p.99.

Ternary structures still predominate Milhaud's Brazilian and Jazz-influenced works, in the tangos of Saudades do Brazil (1920), the 'Romance' and finale of Trois Rag-Caprices (1923). Often the B section of ABA is third-related to the main modality, as in 'Sorocaba' from Saudades based in Bb, with a central section in g 'minor', or 'Sumare' based in G, with a central section in Eb. Additionally, there may be bi-modality at the third. Extended ternary forms may also derive from the basic model, as in Caramel Mou (1920), which has the following scheme: A (1-47), B (48-82), A (83-129), B (130-165), A (166-185) and Coda (186-203).

Rondo form has many illustrations in the Jazz-influenced repertory: the 'Scherzo' of La Création (Analysis 5A), 'Gavea', 'Corcovado' and 'Tijuca' from Saudades and the 'Sec et Musclé' from Trois Rag Caprices with the modification: AB/AC/ABA. Le Boeuf sur le Toit: Cinéma Fantaisie offers the best example of a loosely structured rondo-fantasy, sometimes simply a medley of ideas. The first part, (bars 1-135), of this piece in C 'major', employs a large-scale C-Eb-F♯-A, (4-28) progression, as in the fourth quartet, always moving from major to minor mode. Hence it is evident structurally that Le Boeuf is still an early work.

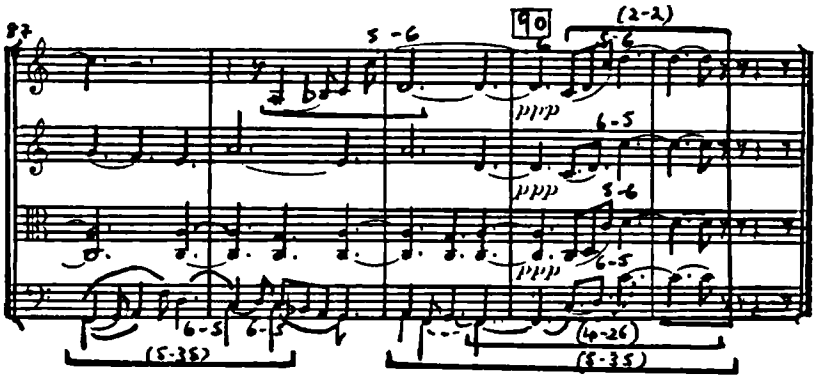
Milhaud's Jazz-influenced repertory does employ stylised Blues forms, such as the modified 12-bar Blues found in the 'Romance' and 'Final' of La Création du Monde (Analysis 5A). Additionally, prelude and fugue are employed in the ultimate synthesis of Jazz and Bachian techniques, again illustrated in Analysis 5A and discussed further in Chapter 6.

* * * * *

Milhaud's Brazilian and Jazz-influenced works are strongly centric, with less modal ambiguity than in the late-Romantic/exploratory works. Pentatonicism seems to be the

compositional source of Milhaud's Brazilian/Jazz-influenced idiom, appearing mainly as a foreground phenomenon. For instance, the first movement of the fourth quartet, composed in Rio de Janeiro, features a prominent submediant degree within the Pentatonic Collection 1 on F: (F,G,A,C,D), shown in Figure 4.2:

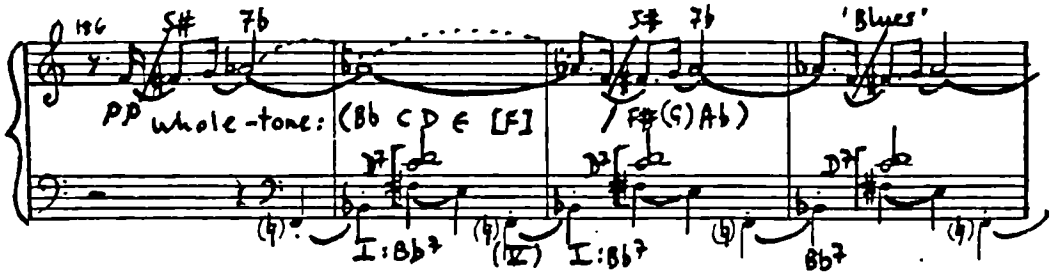
Figure 4.2 Fourth quartet, I. Final 5 bars (87-91).



In the first and last movements are reminiscences of Dvořák's American Quartet in F, as well as of Ravel's quartet (1903). The association with Dvořák is brought about by the strong emphasis on D, to the extent that third relations between F and D are very marked. Both Dvořák and Milhaud also make use of their native folk-song, whether Czech in an 'American' context, or French. In most pentatonic collections one of the missing scalic degrees is the leading-note, with the minor third between $\hat{6}$ and $\hat{1}$ especially prominent. This is the case in parts of Milhaud's fourth quartet, the end of the 'Scherzo' of La Création du Monde and traditional negro spirituals. Thus, Milhaud's Jazz and folk-influenced works may have a common source in pentatonicism. Melodic and harmonic processes are inextricably linked, with exclusive use of (0,2,5) cells producing only mild dissonance within the vertical perspective.

The whole-tone scale also forms an important, localised, source of reference, with its inherent tritonal framework. Melodic and harmonic perspectives are well illustrated across bars 186-196 of Caramel Mou, the (0,2,4,6,8,10) collection operating on Bb: (Bb,C,D,E,F#,Ab), with introduction of 'foreign' pitches: F and G, used chromatically, shown in Figure 4.3:

Figure 4.3 Whole-tone collection: Caramel Mou.



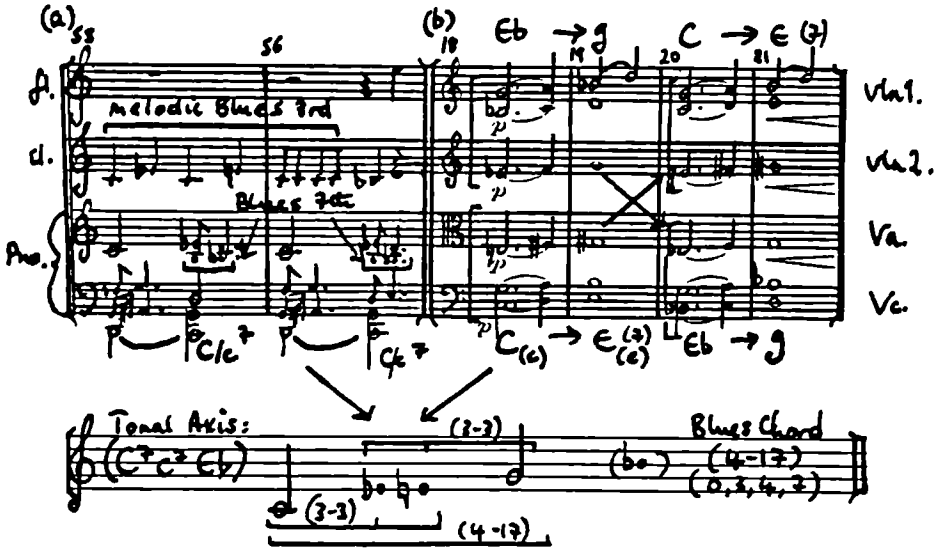
Aeolian and Mixolydian modes may be perceived at background level, such as the sustaining of Mixolydian on Eb across the central section of 'Laranjeiras' from Saudades do Brazil (1920). This concept of background modality is demonstrated in the complete analysis of La Création du Monde (Analysis 5A) as well as in the neo-Classical context of Chapter 5. There is still limited bi-modal conflict, typical of 'exploration', as in 'Gavea' from Saudades, which has first and final sections centred on C, but A and F# conflicting in the central section. The overall progression of Trois Rag Caprices (1923) also stresses the tritonal relation between F#-C, with movements centred on F#-F-C.

The most important modal collection is the Blues, whose salient feature, as noted in Chapter 2, is its Blues third. The phenomenon of melodic Blues third has its source in chromaticism, as mixture predominantly at the third scalic degree. The term for this oscillation between minor and major third is 'bending', best suited to vocal technique (i.e. more microtonal) and only parodied on instruments with fixed pitches, e.g. piano. Instances of the Blues third phenomenon in Milhaud's music are numerous: it pervades the majority of his works between 1918 and 1926. Its sources (both melodic and harmonic) may lie in the first movement of the third quartet, with its Gb/F inflexion within Aeolian modality on D (23), followed by the finales of the Sonata for Woodwind and Piano and the fourth quartet: Figure 4.4 (a) & (b). Blues third surfaces again in the flute sonatina and second movement of the Dixtuor (1922).

Figure 4.4

(a) Sonata: IV, bars 55-6 [also bars 2-3,19-20, 25-6; 39-40,44-5; 65ff.]

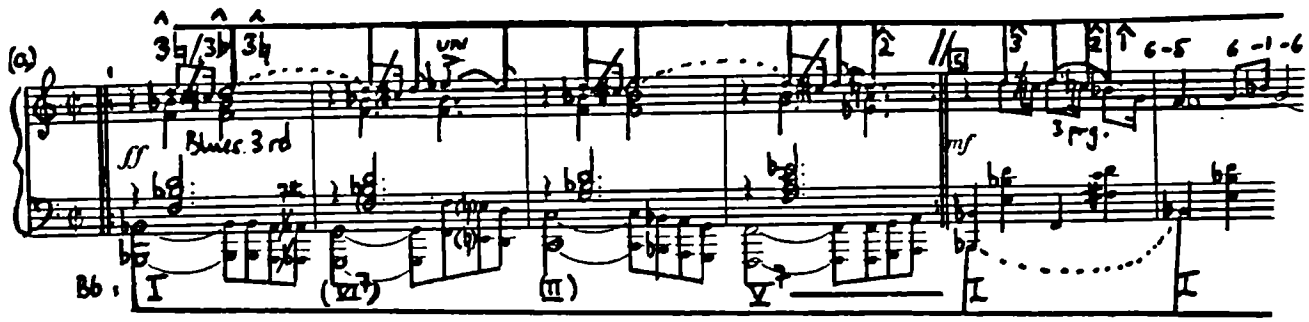
(b) 4th quartet,IV,bars 18-21 [also bars 111-114]



(23) For illustration, see Figure 3.3, p.103.

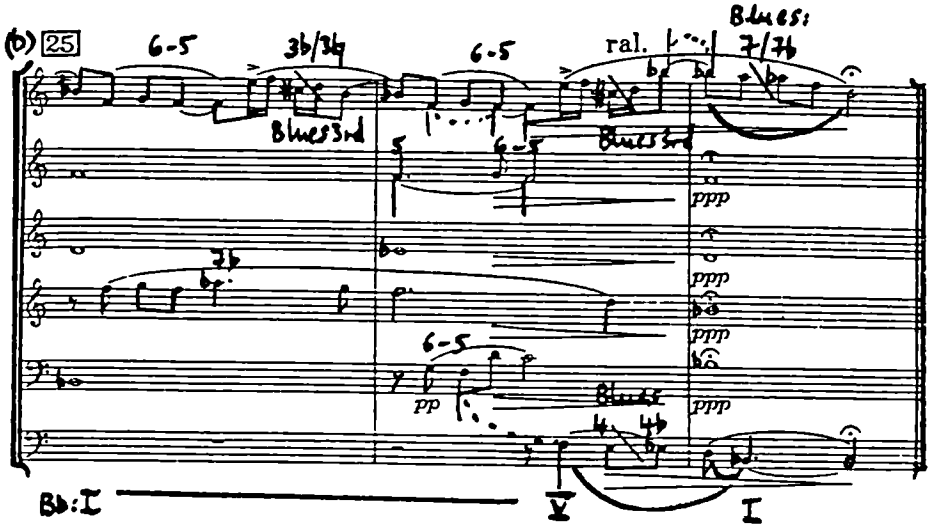
In strict Jazz only the horizontal expression of Blues third is genuine; the vertical expression suggesting Western pastiche, frequently linked to large-scale third relations emerging from bi-modality at the minor third. For instance, centres on C and Eb, shown in Figure 4.4, produce a tonal axis in the manner of Straus's models for Stravinsky's music of the late 1920s/early 1930s: (C Eb/E G) [0,3,4,7], i.e. set (4-17) (24). The essence of the Blues third principle is found in the openings of Caramel Mou; 'Sorocaba', 'Tijuca' and 'Sumare' from Saudades do Brazil, Trois Rag Caprices and the second and third movements of the sixth chamber symphony. This horizontal expression of Blues third has a much higher profile in Milhaud's Jazz-influenced compositions than in those of his contemporaries. The opening of Caramel Mou (bars 1-6) and ending of the sixth chamber symphony (bars 25-27), shown in Figure 4.5 (a) & (b), are typical, with the ultimate synthesis of vertical and horizontal presentation found in La Création du Monde.

Figure 4.5(a) Caramel Mou (bars 1-6).



(24) J. Straus, 'Stravinsky's Tonal Axis', J.M.T. 26, 1982.

Figure 4.5(b) Sixth chamber symphony (bars 25-7)

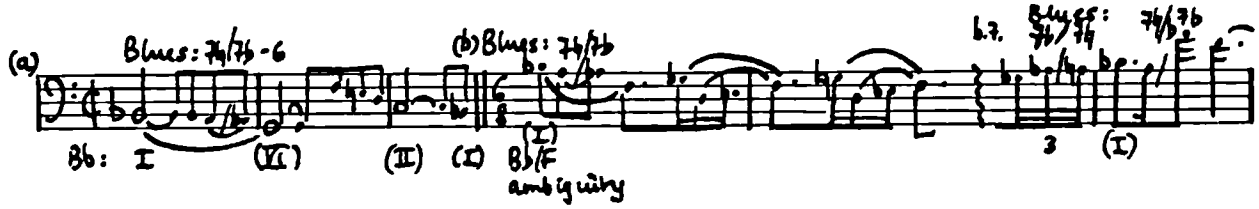


Large-scale Blues third progressions can exist at background level, across a movement or work, such as Quatre Poèmes (1923): (G-Bb-B-G), or the Suite de Concert of La Création du monde (1926): (D-d-F-F#-D). Even after the waning of interest in Jazz, vestiges of Blues third persist in the seventh quartet, Les Malheurs d'Orphée (Scene IX: 'Duo d'Eurydice et d'Orphée') and the 'opéras-minute'. The feature has become an instinctive part of Milhaud's vocabulary.

In addition to mixture at the third, the trait is encountered commonly at the leading-note, as a result of modal ambiguity between centres a fourth apart, a phenomenon exploited in the 'Fugue' of La Création (bars 22-26). Other examples include the opening bass-line of Caramel Mou and second movement of the Dixtuor (1922), shown in Figure 4.6 (a) & (b), overleaf. More rarely, mixture occurs at the submediant, as in the last of Quatre Poèmes.

Figure 4.6 Mixture at seventh degree (Blues notes).

(a) Caramel Mou, (bars 1-3) (b) Dixtuor à Vent, II. (bar 3 ff. - bass clarinet)



Chromaticism continues to be relevant, particularly at surface-level, demonstrated again in the 'Fugue' of La Création and in much of the passage-work for violin in the Cinéma-fantaisie sur le Boeuf (1919). There are clear differences between this non-specific chromaticism and rigorous treatment of Blues notes, which involve microtonal intervals in performance. Additionally, at middleground level, semitonal relations are still part of the make-up, with similar transposed repeats of whole phrases (25). The usual practice is to transpose sections up by a semitone, as in Saudades do Brazil or Trois Rag Caprices.

Although not restricted to the Jazz-influenced repertory, there is continuing partiality for third progressions: especially the small-scale, melodic kind. In the Jazz-influenced repertory, progressions on F# are employed frequently, as in the openings of Trois Rag-Caprices and 'Scherzo' from La Création du Monde.

* * * * *

(25) For other examples, see Chapter 3, p.106.

There are several means of extending modal structures in the Jazz-influenced repertory, some shared with the other stylistic aspects. Tonic and dominant pedals abound, as found in 'Sumare' from Saudades. Another means of extending and securing the coherence of modal structure is by using a (dominant) seventh chordal axis, at any structural level. The V7 and I7 constructs (vertical or horizontal), are prominent at the conclusions of main sections, particularly at the end of the second movement of a three movement work. This is an identified trait of traditional Jazz, as an expression of the flattened seventh of Mixolydian or Blues modes. For instance, a seventh axis on (C,E,G,Bb) could be constructed along the lines of Straus for the F-based 'Romance' in La Création, (Analysis 5A). The ultimate example may be a large-scale tonic seventh axis across 'Ipanema' from Saudades do Brazil (Analysis 4). Other examples of strategically placed dominant-seventh chords are found in the second movements of the flute sonatina (1922) and Trois Rag-Caprices (1923), and there is a significant tonic seventh at the end of La Création. Vestiges of the dominant axis are detected in the 'Lent' of the clarinet sonatina (1927).

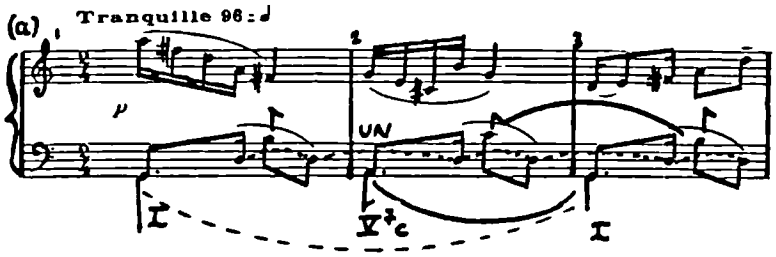
The harmonic riff is an acknowledged rhythmic/pitch formula for extending Blues structures, as a Jazz equivalent of ostinato, the effect extending to middleground level. Many similar illustrations are found in Saudades: 'Sorocaba', 'Gavea', 'Corcovado', 'Paineras', 'Laranjeiras', 'Paysandu' and 'Ipanema' (Analysis 4). The favoured pattern is tonic-supertonic-tonic, i.e. an upper neighbour-note progression. This substitution of supertonic for dominant in 'passages of vamping... especially in connection with Latin-American rhythms', was first observed in Milhaud's operas by Jeremy Drake (26). The clichéd gesture usually begins the section A

(26) J. Drake, O.D.M., Essay on 'Harmony', p.213.

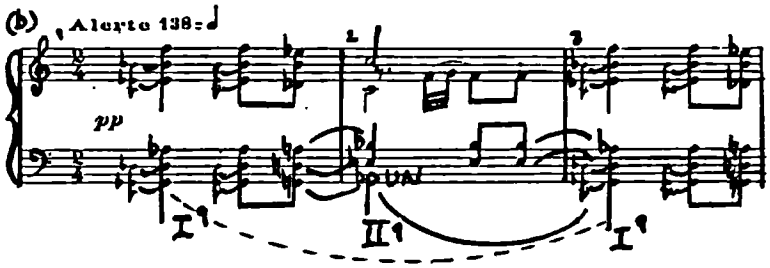
of the dance, almost as a mannerism (shown in Figure 4.7), after which the pattern changes. Rather more sophisticated patterns operate in the 'Final' of La Création.

Figure 4.7

(a) 'Corcovado' bars 1-3



(b) 'Larenjeiras' bars 1-3



Discussion of techniques influenced by Jazz and Brazilian popular music must include the parameters of metre and rhythm: their processes closely linked to the exigencies of particular dances. The most frequent metres are 2/4 and 4/4. Metrical changes within a movement are uncommon but can be striking, e.g. finale: 'Précis et Nerveux' of Trois Rag-Caprices, where the 4/4 metre alternates firstly with 3/4 bars to form seven-beat groupings, then with 2/4 bars. A

5/4 bar is introduced at bar 85, as a metric suspension, before the recapitulation at bar 86. There are patterns of anacruses: especially of three quavers in 4/4 metre, e.g. the 'Fugue' of La Création, or in double augmentation, e.g. the 'Romance' of the same work. The first movement (and finale) of Trois Rag-Caprices uses the three quaver idea, followed by the three crotchet one, in the slower section beyond bar 30. The 'Romance' here, also employs the three crotchet anacrusis. Alternatively, the first semiquaver of the bar can be removed, causing a sensation of halting, or tripping, e.g. 'Corcovado', or 'Tijuca' of Saudades. In the Cinéma-Fantaisie sur Le Boeuf, the main phrase commences after a dotted quaver rest in 2/4 metre.

The characteristic rhythmic identity of the tango is: dotted quaver/semiquaver/two quavers in 2/4 metre. Beyond this prerequisite, Milhaud's tangos in Saudades exhibit great variety. The samba also uses 2/4 metre, characterised by simple syncopation - semiquaver/quaver/semiquaver: or in augmentation, used in Le Boeuf; or in augmentation of four times - crotchet/minim/crotchet, e.g. in the 'Scherzo' of La Création. Tied note values contribute to the effect, for instance the repeated samba pattern sometimes has the semiquaver notes tied across the middle of the bar, as in 'Tijuca', or over the ends of the bar, as in 'Corcovado'. The first movement of Trois Rag-Caprices has a crotchet tied to a quaver, across the bar-line. Although the rumba dance developed somewhat later, with the pattern: dotted crotchet/ dotted crotchet/ crotchet in 4/4, the second movement of Milhaud's sixth chamber symphony, written in New York, anticipates a distorted rumba in 7/4 metre: 'Souple et Vif', divided into 2 + 3 + 2.

* * * * *

ANALYSIS 4

'IPANEMA' FROM SAUDADES DO BRAZIL: A COMPARATIVE ANALYSIS WITH K.W. DANIEL

PRELIMINARIES

Saudades do Brazil was composed in Copenhagen and Aix-en-Provence in 1920 and first performed on 21st November of this year at the 'Concerts des Six', Galerie Montaigne in Paris, by the pianist N. Velloso Guerra. The whole set lasts approximately 20 minutes. 'Ipanema' is the fifth of the set and is dedicated to Arthur Rubinstein. It is a typical, ternary-structured tango, selected from Saudades do Brazil by K.W. Daniel as the most suitable for a set-theoretic interpretation in his article, discussed in Chapter 2 (27). It is for reasons of comparison that I have chosen 'Ipanema'. In addition to evaluation of Daniel's analysis, Joseph Straus's notion of seventh axes is also investigated and its suitability, within this context, assessed.

ANALYSIS

The central question in analysis of 'Ipanema' is, how relevant are atonal techniques to modally conceived, centric music, albeit encompassing complex, bi-modal constructs? The following comparative analysis attempts to answer this question. As before, a formal outline is given before embarking on more detailed discussion. The small difference of opinion between Daniel and myself over the breakdown into formal sections is indicated in Figure 4.8 and argued below.

(27) Keith W. Daniel, 'A Preliminary Investigation of Pitch-Class Set Analysis in the Atonal and Polytonal Works of Milhaud and Poulenc', In Theory Only, vol.6/6, September 1982, pp.22-48. (Refer back to pp.59-60 of this dissertation.)

FIGURE 4.8 FORMAL OUTLINE: 'IPANEMA'

STANDARD TERNARY FORM

		Total Bars
SECTION A	Bars 1-33 Daniel: 1-31	33
Blues type mode on eb, F superimposed above (Progression: eb,E,F - - Gb for Section B)		
SECTION B	Bars 34-61 Daniel: 32-61	28
Centre on Gb (and C). Possible octatonicism: Framework: (E,G,Bb,Db)		
SECTION A'	Bars 62-85	24
Return to Blues type mode on eb, F superimposed above		
INTEGRAL CODA	Bars 75-85	
Final chord of Gb	Bar 85	

Daniel commences with the statement that: 'Ipanema provides a more interesting and tightly organised example of the use of pc sets (than other pieces from Saudades)'. Sets are used as a 'co-ordinating element' and 'the set family can be reduced to a more compact complex, with more multiply-represented sets' (28). He asserts that: 'most importantly, the use of sets transcends the surface structure of the piece' (29). Daniel concentrates on the central section of the piece, which proves of greatest interest, and his implementation of set-theory is generally convincing. However, there are criticisms, such as with his Example 7 (30), examining bars 32-61, where little detail is given of the criteria employed in segmentation, apart from the fact that this is 'creative segmentation' (31). A second

(28) K.W. Daniel, op. cit., p.32.
(29) Op. cit., p.33.
(30) Op. cit., p.35.
(31) See Chapter 2, p.60.

criticism concerns his Figure 4, where the segmentation of bars 62-68 is offered without an annotated score. There is no way of verifying Daniel's results, without re-working the section.

Daniel rightly regards the work as a standard ternary structure, with A: (1-31); B (32-61); A' (62-85). The only point with which I take issue is in identifying the start of section B, which I think is better argued as from bar 34 onwards. The reason for this lies outside Daniel's brief of a set-theoretic analysis; and in many ways it is regrettable that he restricts himself to this technique alone, because the piece can only properly be appreciated through a more flexible mixture of post-tonal voice-leading analysis and set-theory. I advocate that the section begins at bar 34, firstly, because this bar represents one of several strategically placed consonances, within a predominantly dissonant syntax (shown in Ex.4.1). One might even suggest the idea of 'focused consonances', as the converse of Arnold Whittall's term: 'focused dissonance', because this indeed is what they are. These rare, pure consonances (discussed in detail below) appear on Gb at bars 34, 45, on C at bar 55, on Gb at bar 68, and on C at bar 74, in a large-scale eb modal context. The first four occurrences are evenly spaced, at distances of 10, 9 and 12 bars.

The second reason for favouring bar 34 is that this bar also represents the conclusion of one of several chromatic progressions: (Eb-E-F-Gb), such as the earlier bass descents at bars 20 and 27-8. By bar 32, the progression which began at bar 29 has only reached as far as 'F'. The third and final reason in support of bar 34 is that the whole movement is a typical third progression from eb (with F in section A), to Gb as the final chord of section A': bar 85. The transition to section B mirrors this progression on the small scale, based primarily on Gb (with an important

tritonal rival on C). For all these reasons, bars 32-3 are only part of a link into section B, rather like the isolated octave on C at bar 74, used as a transition to the coda, at bar 75.

There are occasions when Daniel's segmentation overlooks important pitch connections. For instance, bar 55 is the first 'focused consonance' on C, which develops into C7 at bar 56, i.e. (4-27), unmarked by Daniel; and thus parallels his observation of (4-27), (Gb7) at bar 57, shown in Ex.4.2. This polarised juxtaposition is overlooked because the segmentation only operates in crotchet beats, or whole-bar groupings. For similar reasons the (4-27), (G7) formation of the bass, is overlooked in bar 50. Sometimes the introduction of extra sets would reveal further relations. In bar 56, Daniel identifies (4-16) in the second crotchet of the bar: pitches (D,D♯,G,A). In fact the pitches across the centre of the bar, (the central, syncopated crotchet unit) are also related in the same way: (4-16): (A,Bb,D,E), as indicated in Ex.4.2.

Daniel gives bar 54 of the central section special significance: 'finally, (6-Z50), the complement and Z-related set of (6-Z29), the most important set of the two outer sections of the piece, is derived from the total pc. content of measure 54' (32). However, in post-tonal terms, the bar simply functions as modified cadential 6/4 (Ic-V), with Blues seventh, to the more significant C major consonance, referred to above (Ex.4.2). It seems strange to single out this bar, when it is just a structural and voice-leading sequel of bar 44, whose motion was directed towards the opposite 'pole' of Gb. In Figure 5, Daniel illustrates the set complex, with its K and Kh relations, concluding that '(4-27) seems to be the logical nexus set, because of

(32) Daniel, op. cit., p.33.

its frequent use in the piece, and because it contains (3-11), and is contained in (6-Z25), (6-Z29), (6-30), and (7-21)' (33). Set (4-27) is all pervasive; but it may be overstating the case to elevate this to a nexus set. After all, the piece still owes much to tonal principles, however modified, so that the frequent appearance of (4-27) as the dominant seventh chord, is hardly remarkable. Still less so that (4-27) contains (3-11), the major/minor triad!

What is far more interesting and significant is to distinguish between appearances of (4-27), so that a fascinating, tightly ordered dominant seventh complex emerges. [(4-27) was also a localised reference set in the second movement of the Dixtuor: Analysis 3.] Thus, it may be possible to view the dominant seventh as a vertical framework for the Mixolydian mode: an incipient Jazz construct. The central section of 'Ipanema' features four tritone-related dominant seventh constructs: two of primary importance, two secondary. The latter two are Db7 (C#7) and G7, whose chords of resolution are the two primarily opposed constructs: Gb7 (F#7) and C7. The resolution of Gb7 is never stated. As for that of C7, the juxtaposition of F with eb, and F with Gb, in section A', (bars 62-3,66-7, 70-73, 75-83), is justified as the logical 'implication-realisation' of C7 in the central section, shown in Ex.4.3. The full listing of occurrences (sometimes superimposed or combined) of the four types of (4-27) within the central section is given in Figure 4.9 (overleaf).

The dominant seventh construct is involved in the prominent complementary set relations, observed by Daniel: 'the large set (7-31) provides foundational support in measures 40, 42, and 52, while its complement (5-31) appears in measures 38-9 and measure 52' (34), detailed in Ex.4.4. The connection

(33) Daniel, op. cit., p.34.
(34) Op. cit., p.33.

FIGURE 4.9 'IPANEMA':
OCCURRENCES OF TRITONE-RELATED DOMINANT SEVENTHS
(and pure triads): Db7, Gb7; G7, C7.

	Db7	Gb7
Bar	44	34 (pure Gb)
		45 (pure Gb)
		68 (pure Gb)
		35-37
		43-44
		58-61

	G7	C7
Bar	55	47-48
		53-54
		55 (pure C)
		56

	Db(C#)/G combined	Gb/C combined
Bar	40	38-39
	42	41
	50	48-49
	52	51

with complementation is that the dominant sevenths in bars 38-9, 48-9 and 52 contribute to set (5-31): (C,E,G,Bb,Db); whilst the complementary set (7-31), features C#7 at bars 40,42 and G7 at bar 52 (Exs.4.3-4.4). The dominant seventh construct also connects with octatonicism, in that across bars 38-9, 48-9 and 52, the interaction of 'polarised' dominant sevenths: (Gb,Bb,Db,E[Fb]) and (C,E,G,Bb), shown in Ex.4.4, produces the octatonic set, (6-30). [(6-30) also featured in the outer movements of the Dixtuor: Analysis 3.]

Daniel rightly describes (4-27) as one of several 'strategically-placed set repetitions'. In fact it is used as an indication of imminent change. The Gb7 at both the beginning (bars 35-7) and end (57-60) of the central section 'implies' a change which, in the parlance of Meyer, is then 'realised'. Bars 35-7 prepare for the full opposition of 38-9, with the Fb of Gb7 represented enharmonically as E, in readiness (as the new third) for the imminent C triad at bar 38. Bars 43-4 also feature Gb7 in a

transitional context. Bars 46 and 56 are equivalent linking bars between dominant seventh constructs, the former featuring a chromatic descent in the bass, linking Gb to C; and the latter a chromatic ascent in the treble: D-D#-(E), with bass G, leading chromatically to Gb. Bb and E pitches are the common intersection of C7 and Gb7, used across bars 56-7 (Ex.4.2). In bars 57-61, E continues to act as a pivot (reached by means of the C major triad of bar 55), functioning as the seventh of Gb and providing a leading-note type of suspense, for the return of the upper F pitch of section A' at bar 62.

Some of the most interesting processes can only be fully appreciated as expressions of bi-modal polarity, in keeping with sections of L'Homme et son Désir and contemporary, exploratory works. The centres of Gb and C are confirmed by their own separate, but simultaneous, cadences maintaining superb balance. This dynamic correspondence between 'polar' opposites is achieved with unfailing logic. The Gb centre of the bass in bars 38-9 and the C centre of the treble are confirmed by their respective dominants - Db7 and G7 - in bar 40 (Ex.4.4). Referring to the C and Gb triads collectively as part of an octatonic construct: (6-30), (C,Db,E,Gb,G,Bb) is feasible, as described above, but may detract from the remarkable duality. The passage is clearly significant to Milhaud who has designated it, unusually: 'très strict, sans nuances'. In terms of cadencing, bar 41 features resolution to the 'tonics', followed by the dominants in bar 42. The 'focused consonance' on Gb at bar 45, approached by means of Db7, is strategically placed before the inverted counterpoint of bars 48-9, where C now occupies the bass and Gb the treble position. Bar 50 features their dominants, (as bar 40), with bars 51-2 (as 41-2). The Gb7 of bars 35-7 is balanced at bars 53-4 by C7; the 'focused consonance' on C (bar 55), balances that on Gb (bar 45), [Ex.4.2].

Of the outer sections, Daniel mentions only the main (6-Z29) set, which comprises superimposition of triads of eb and F. [(6-Z29) is used similarly in the first movement of the clarinet sonatina: Analysis 8.] The effect is collage-like, with eb in the bass, and F in the treble in bars 1-2, after which the arrangement is inverted for bars 3-4 (Ex.4.5). The dissonance is more acute in the second arrangement, with closer spacing highlighting the A/Bb opposition. Gb/F triadic opposition is introduced in bars 11-12,15-16, as a foretaste of the Gb centre, so important in the central section and conclusion. The most 'biting' dissonance is reserved for the 'ff' at bars 21, 23 and 25-7, with superimposition of Eb9 and D. Semitonal opposition is cadentially affirmed in bars 22 and 24, with chord IV9 (Ab9) of Eb in the bass and V7 (A7) of D in the treble. There is melodic chromaticism in the outer sections, such as the chromatic ascent in the tenor line at the start of section A' (bars 62-68), shown in Ex.4.6. This is a clear expression of voice-leading and cannot be understood in set-theoretic terms alone, (as in Daniel's Figure 4). As a specific type of chromaticism, there is an isolated instance of incipient Blues third in the bass at bar 30: (G#/A) within F.

There are small modifications in the return of section A at bar 62 (Ex.4.6). The F/Gb opposition (bars 70-74) is 'softened', as the triads are presented successively, rather than simultaneously, with the effect of tonic-dominant oscillation. The F triad is further clarified by the C octave in bar 74, as implied dominant, resolving back to the F triad at the start of the coda (bar 75). Nine of the eleven bars of the coda 'prolong' the (6-Z29):eb/F opposition, whose tension is not resolved, but simply remains static. The final chord: (6-20), significantly unrelated to previous sets, still does not constitute a resolution, though it restates the basic eb-Gb progression (Exs.4.7 & 4.9). Tonally speaking, (6-20) is a first inversion chord of Gb7,

with interference of D and A: (Bb,Gb,Db,Bb; D,F#,A; Db,F,Bb,Db). It exhibits similar pairings of semitonal opposition: (A,Bb;Db,D;F,Gb), to the earlier (6-30), and embraces the Blues set (4-17). [Set (6-20) also featured in the 'Funèbre' of the fourth quartet: Analysis 1.] Finally, the bass-note is Bb, (actually of chord IIIb), in relation to an eb centre: thus, like many of Milhaud's Jazz-inspired works, 'Ipanema' concludes on the fifth scalic degree.

CONCLUSION

It would be tempting to view the whole piece in relation to one of Joseph Straus's seventh axes: (Eb,Gb,Bb,Db), as demonstrated by Exs. 4.8-4.9, which would explain the close third relations between eb and Gb. The piece begins focused on the lower part of the axis: (Eb,Gb,Bb), moving to the upper part for section B: (Gb,Bb,Db), and returns to the lower part for section A', before concluding on the upper portion. However, the tonal axis cannot take account of the important, antagonistic role of C versus Gb in section B, from which view-point, a diminished triadic axis: (C-Eb-Gb) might be more appropriate. The movement is focused on Eb (minor) as the main centre, with subsidiaries on Gb and C, both a minor third from the 'tonic'. Alternatively, section B might be viewed as operating in the Octatonic Model B collection on E: (0,2,3,[5],6,8,9,11), with the whole piece seen as an interaction between the seventh axis on Eb (with Blues third: Gb/G) and the octatonic framework on E (Ex.4.9).

A final idea is to envisage the piece as an expression of the descending Blues collection on Eb (with Blues third and sixth, as opposed to seventh). The scalic form: (Eb,Db,C/Cb, Bb,Ab,G/Gb,F,Eb) (0,2,3,4,5,7,8,9,10) would still be useful in explaining Blues third: Gb/G and the concept of the seventh axis: (Eb,Db,Bb,Gb,Eb). Moreover, it would provide

the most plausible explanation for the polarity of Gb and C in section B, since these pitches exist in perfect symmetry within this collection.

Whichever stance one adopts, set-theory provides only part of the solution. Daniel's implementation is generally convincing as far as it goes, though he sometimes uses set terminology in contexts which are evidently tonally derived. However, apart from (4-27), there are few significant sets appearing in transposition and the outer sections of 'Ipanema' do not reward the set-theoretic approach as much as the more complex central section. I am still doubtful whether even this section does 'offer a convincing argument for set consciousness in this piece' (35). The background is still a centric, modal one, outlining a third progression (Ex.4.9) and procedures at middleground level are heavily reliant on 'prolongation' through pedal-points. Finally, it is indisputable that 'Ipanema' provides one of the best illustrations of bi-modal polarity in Milhaud's Brazilian/ Jazz-derived repertory.

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(35) Daniel, op. cit., p.33.

ANALYSIS 5

LA CREATION DU MONDE (Op.81-1923; Op.81b-1926)

PRELIMINARIES

La Création du Monde exists in two versions: the original ballet, Op.81 (1923) and a Concert Suite Op.81b extracted from the ballet (1926). Op.81, dedicated to Paul Collaer and Roger Desormière, was first performed on 25th October 1923, by the Ballets Suèdois, directed by Vladimir Golschmann; whilst Op.81b was first performed in 1927, by the Kolisch Quartet, at the annual Festival for Contemporary Music, in Baden-Baden. In Op.81, choreography was by Blaise Cendrars, with scenery designed by the painter, Fernand Léger. Milhaud aimed to portray the creation as suggested by negro legend and ritual, without the innate violence of Stravinsky's Sacre, of a decade earlier. In fact, the first performance with negro dancers did not take place until 1939, when Agnes de Mille choreographed the work as a 'Black Ritual', at the Ballet Theatre in New York.

Op.81 is performed by 17 'soloists', in the terminology of the composer, and may thus be considered a chamber work, even in the original version. The orchestration (36) was inspired by a contemporary operetta: Liza, of M. Maceo Pinkard. From this, Milhaud borrowed the idea of the string quartet, with viola replaced by saxophone and double-bass (37). By contrast, Op.81b requires a more homogenous ensemble of piano quintet. Both versions last about 15 minutes and consist of five movements: 'Prélude', 'Fugue', 'Romance', 'Scherzo' and 'Final', though the titles are only used in Op.81b. A detailed comparison between the two versions is the brief of Analysis 5B 2.

(36) Op.81: 2.1.2.1 -Sax- 1.2.1.0 - T.B.- 2 Vln.Vc.Cb.-Pno.
(37) Details from Etudes: 'L'évolution du jazz', pp.51-9.

Inspiration derives from various sources: the Jazz that Milhaud heard in Harlem in 1922, and Parisian night-life, with the musical ambience of the Rue des Lappes or Boulevard Barbés. The exotic and fanciful negro mythology behind La Création du Monde is expressed poetically by Blaise Cendrars:

> Le couple s'est étreint
> La ronde se calme, freine et ralentit et vient mourir très calme alentour.
> La ronde se disperse par petits groupes. Le couple s'isole dans un baiser qui le porte comme une onde.
> C'est le printemps (38).

It was in La Création du Monde, that Milhaud 'at last had the opportunity to use the jazz elements' that he had studied for so long, though the work is a combination of Jazz and neo-Classical features, as will be discussed in Chapter 6. It features a reflective opening section, with further meditative insertions in the 'Final'. Unmistakable allusions to Jazz are found in the fugal counterpoint of the second movement and the 'Romance'. In the 'Final' especially one senses the Iberian-American harmonies, so characteristic of the composer of Saudades and subsequently of Scaramouche. Following the première of La Création du Monde: 'the critics decreed that my music was frivolous and more suitable for a restaurant or a dance-hall than for the concert-hall.' Milhaud adds, somewhat wryly, that: 'ten years later, the self-same critics were discussing the philosophy of jazz, and learnedly demonstrating that La Création was the best of my works' (39).

(38) Quoted by P. Collaer, Darius Milhaud, 1982, p.121. My translation:
'The couple embrace.
The (dancing) circle quietens, checks itself and slows and begins to die down, peacefully all around.
The circle breaks up into little groups. The couple is isolated in a kiss, which carries it along like a wave.
It is spring-time.'

(39) D. Milhaud, M.V.H., 'Ballets', p.128.

The analytical approach to this work focuses on the use of the Blues scale. Analysis 5A employs post-Schenkerian voice-leading and motivic analysis, with modal partitioning (of Blues, Aeolian and Dorian modes). Traditional terminology is employed, in preference to that of set-theory, because the music is so strongly centred and obviously Jazz-influenced. Melodic/thematic process is examined before harmonic process, in keeping with the premise that, in Milhaud's music, harmony emanates from melody. This melodic priority also applies to the negro music of Milhaud's inspiration. In harmonic analyses, traditional Roman numeral chord symbols are used, with Jazz symbols and an indication of the mode. In addition to illustrations of harmonic treatment, tables show the overall sequence of modality in the 'Prélude' and 'Fugue'. In the supplement, analyses of theme, harmonic process etc. each follow through the five movements consecutively, in order to provide an overall perspective. However, for ease of access to the separate movements, each has its own labelling, (within whichever parameter), as Ex.4.10, Ex.4.11 etc. The main concern in Analysis 5A is with pitch formation though it is impossible to ignore rhythmic treatment, which is particularly subtle and effective. The 'Prélude' and 'Fugue' are treated in greatest detail since these movements first state the main thematic material of the work.

Analysis 5B 1. employs a comparative approach with the Jazz manual of Walter Stuart, in order to implement Keil's suggestion of ascertaining the deviation from standard Jazz practice. This embraces form, harmonic riffs, Blues melodic patterning and techniques of embellishment. Analysis 5B 2. also employs a comparative approach, in essay format, in order to discover similarities and differences between the two versions of La Création du Monde: the ballet and Suite de Concert.

* * * * *

ANALYSIS 5A

BLUES AND OTHER MODAL FORMATIONS IN THE 'SUITE DE CONCERT': Op.81b-1926

I. 'PRELUDE'

The formal framework of the 'Prélude' is a four-part structure of roughly equal segments, from 24-30 bars in length, shown in Figure 4.10:

FIGURE 4.10. FORMAL OUTLINE: 'PRELUDE'

MONOTHEMATIC SONATA-TYPE FORM
2/2 metre (irregularity: bar 45 3/2 metre)

		Total Bars
SECTION A Expository	Bars 1-30	30
SECTION B Developmental: peak at	Bars 31-55 Bar 46	25
SECTION C Developmental: peak at	Bars 56-82 Bar 72	27
SECTION A' Recapitulatory	Bars 83-106	24

Each section is concerned with the main theme A, as detailed in Ex.4.10 of the Thematic Analysis. One might view the 'Prélude' as ternary since the second and third sections are both concerned with the development of the main idea: i.e. Section A (1-30); Central Section (31-82); Section A' (83-106). Alternatively, one could regard Section A as (1-55), Central Section (56-82), Section A' (83-106). However, the resulting lack of balance would tend to invalidate these two later suggestions. The 'Prélude', (as its more developed counterpart: the 'Final'), is a complex, sectionalised yet rhapsodic, structure.

The main material consists of Theme A and Counterthemes 1 and 2. Theme A has a clear motivic construction, with elements labelled (a), (b) and (c), as in Ex.4.10 (See also illustrations of Thematic Extension and Transformation: Exs. 4.16-4.18). Label (a) denotes the opening perfect fourth in ascent, (b): a third progression in descent and (c): a 'turn' used as a cadential figure. There is also a significant larger-scale motive:(α), an extension of (a), consisting of perfect fourth plus major second. In a sense this sums up Theme A, which is of great importance in the 'Prélude' and 'Final', shown by Exs. 4.16-4.19: Thematic Extension and Transformation. Whereas Theme A uses predominantly the upper segment of the Aeolian on D: A-D, the Counterthemes (shown in Ex.4.10) use only the lower segment: D-A and are mainly concerned with the cadential motive (c). Thus the mode on D is partitioned about A. Inherent in the D-A segment is the fifth progression: (β), i.e. 2 X the third progression: (b). The Countertheme material is crucial as the basis for the fugue: especially the tonic-supertonic-mediant [(b)' inv.] part of the phrase. Each half of Countertheme 1 is a retrograde of Countertheme 2, shown in Ex.4.10 (40).

In Section A, 'mélange' at the third scalic degree is immediately evident, though it is simply a non-linear superimposition of major and minor and so does not yet justify the term 'Blues'. A second source of conflict, or polarity, concerns phrasing: whilst Theme A is constructed in three-bar phrases, with supporting bass, the Countertheme utilises two-bar units. Even when a 12-bar 'Blues' form is thought to operate, it is invariably this parody of 4 X 3 bars; as opposed to traditional Blues: 3 X 4 bars. The

(40) For the harmonic context, consult Ex.4.22(a): Harmonic Process.

Aeolian modal nature of Theme A means that, in keeping with modal practice, the raised seventh is reserved for moments of special melodic, or harmonic impact, such as the subtly 'pointed' effect of bar 24 (Thematic Extension: Ex.4.17, Second statement). The next C# is employed at bar 31, marking the start of Section B on the dominant: Aeolian on A. In this developmental section, there is far more harmonic movement than in the expository section.

In Section B, Theme A (Thematic Extension: Ex.4.17, Second statement) is heard with added tonal warmth, played by the quartet; whereas in section A it was stated by the piano in octaves. The wistful, Mahlerian character hints at Lieder eines Fahrenden Gesellen, or perhaps this is just subconscious use of Jewish folk-song, also featuring the modal, flattened seventh (41). Typical harmonic techniques include the chromatic encirclement of the D pitch, by Eb and C#, across bars 35-6 and the suggestion of bi-modality at the minor third: F# and A (bars 37-9). Bars 41-6 show a favourite developmental device: multiple sequential transpositions (scalic progressions) of a second inversion chord, resolving at bar 47 onto a tonic pedal on D. It is common practice in Milhaud's music of the 1920s for main sections of material to be endowed with harmonic stability, whilst passages which link them are unstable. A modulatory effect is created across bars 50-55 with fourth-interval patterns: a basic 'quartal' harmony and a stepwise progression represented by the minims (Ex.4.17: Extension in Piano Writing).

Section C (bars 56-82) commences on F 'minor' (42), with the major mode conflicting in bar 58 and superseding in bar 59.

(41) Ex.4.22(b): Harmonic Process, details this passage.
(42) The term 'minor' is used since, as only the lower scalic segment: F-C is employed, with no information about sixth and seventh degrees, it is impossible to be more specific.

Both Counterthemes are combined with Theme A (Ex.4.18, Third statement: Thematic Extension) now presented in the middle of the piano texture, embellished by grace-notes (43). From bars 68-73, Countertheme 2 is robbed of its rhythmic identity and presented as equal minim note-values, with a process of diminution into crotchets and quavers operating through the material of bars 73-5. There is affinity with the 'Romance' in the use of F7/Bb (bars 75-80) and F major/minor (bars 81-2). As between Sections A and B, 'Cédez' - 'yielding' - at bars 81-2 draws attention to a two-bar Jazz 'break' linking into the recapitulation (44).

The return of Section A reasserts the tonic, by means of a chromatic Eb-D progression across bars 83-6, illustrated in Harmonic Process: Ex.4.22(d). Theme A (Ex.4.18, Fourth statement: Thematic Extension) now features the viola. Again there are hints of the fugal subject to come, with its linear expression of Blues third, as in the piano part of bars 87-8. The interpolation of extra bars between 83 and 106 (e.g. bar 91), contributes to a distinctive irregular phrasing: 4 + 5 + 3 + 2 + (2 X 5). The second reinforcement of the modality on D occurs at bar 94, with the C# lower neighbour-note, as shown at the end of Ex.4.22(d): Harmonic Process.

The integral coda commences at bar 97, after which five D pitches, doubled at the octave, resound in the bass, producing a percussive effect, rather as a bell tolling. Above, from bars 96-106, the rhythmic identity of the string writing is again reduced to equal crotchets, with a parallel reduction of melodic identity, to mere scalic descents

(43) A harmonic interpretation is given in Ex.4.22(c): Harmonic Process.

(44) The jazz 'break' is a brief improvised solo, interpolated between the lines of a verse, or between verse and chorus, thus helping dove-tail different sections.

within the Aeolian collection on D. The final occurrence of the raised leading-note is reserved aptly for the final cadence (bars 105-6), with an allusion to Baroque practice (45), the 5/4-3 dissonance in the piano part resolving onto pure D minor harmony, shown in Ex.4.22(e): Harmonic Process.

A summary of the sequence of modes, existing at various structural levels, is given in Ex.4.27. The Aeolian on D is the main collection, with others of lesser importance, including the Blues collection and small-scale Dorian, Phrygian and pentatonic fragments. Given the dominance of the Aeolian, it might be argued that even the Dorian passages are modified Aeolian (melodic minor) transposed. Additionally, there are bi-modal passages operating at foreground level and 'fused', or combined modes, exhibiting characteristics of more than one standard mode: thus modal interaction is considerable.

* * * * *

II. 'FUGUE'

The 'Fugue', by contrast, has an unambiguous tripartite structure, with the final recapitulatory section reduced from 21 to 15 bars, as illustrated in Figure 4.11. It is a short movement with no tempo changes and the only metrical irregularity occurring in the final three bars. The main Subject of the 'Fugue', i.e. Theme B, shows authentic handling of the Blues collection on D, featuring particularly motives (b), its extension: (β), and (c). The first part of the Subject is concerned with the span: D-A, to which it returns after a short excursion to the upper tetrachord: A-D, shown in Ex.4.11: Thematic Analysis.

(45) The momentum into the cadence is provided by the viola's triplet crotchets (bar 104), in allusion to piano's triplets (bars 91 and 94).

FIGURE 4.11: FORMAL OUTLINE II. 'FUGUE'

MONOTHEMATIC TRIPARTITE STRUCTURE
Common time metre (irregularities: b.56, 6/4; b.57, 5/4)

		Total Bars
EXPOSITION	Bars 1-21	21
MIDDLE SECTION	Bars 22-43	22
FINAL SECTION (Recapitulation)	Bars 43-58	15

The voice-leading interpretation of the fugal Subject and Countersubjects has heeded Jazz principles, as embraced in Stuart's Encyclopedia (46). This includes the premise that 'a neighbour-note always precedes the main note, unless the main note is returned to directly after a neighbour-note (i.e. mordent)' (47). The fugal subject features Blues third with its main pitch as F (preceded by F#) in bars 2-3, then F# (preceded by E#) in bar 4. The flattened seventh is also introduced in bar 4, with a confirmatory (C#-C) progression in bar 5. The rhythmic structure of the subject contributes to its effectiveness, with consistency and momentum afforded by the three-quaver anacrusic grouping, typical of Jazz. This figure is all pervasive, with detailed patterns of accentuation: (1 + 3 quavers) across bars 6-11, maintaining the dynamic drive.

One of the ironies of this movement is the apparent modulation to the subdominant at the end of the main subject (bar 6): a typical feature of Jazz operating in the alien, neo-Baroque context of fugue (48). In the realm of Jazz

(46) W. Stuart, Encyclopedia of Improvisation, New York, 1972.
(47) Op. cit., Part 4, p.3. For instance, in the Blues on D, if F precedes F#, then F# is the main, structural pitch on the third scalic degree and vice-versa.
(48) This is simply part of the 'cycle of fifths'.

itself lies a second incongruity: although melodic transposition to a new tonic a fourth higher is common (49), negro music, and Milhaud's Subject, avoid melodic reference to the fourth scalic degree. The reason is that negro folk melody is heavily reliant on the pentatonic collection, which does not feature the fourth degree.

The Countersubject, in the Blues scale on E, also features motives: (b), (β) and (c); and incorporated within both Countersubject and Free-part is a quotation of the most famous of Blues themes: 'St. Louis Blues'. The Free-part is also interesting in that it reintroduces the prominent fourth: A-D, so crucial to Theme A of the 'Prélude'. The second Free-part (bars 17-21) restates the Blues quotation and fourth interval back in the Blues collection on D. It also features a minor sixth motive: (d), effectively a distortion of the opening fourth interval: motive (a).

The order of fugal entries in the exposition is shown in Figure 4.12. Harmonically, the pattern is consistent with the formula for a Jazz riff: (I,II,V,I) and motivically, the progression corresponds with the most important motive of Theme A from the 'Prélude': (α) - i.e. perfect 4th and major 2nd intervals.

FIGURE 4.12 'FUGUE': PATTERN OF FUGAL ENTRIES

D	(I)	Subject on 'Cello	Bars 1-6
E	(II)	Answer on Viola	Bars 6-11
A	(V)	Subject on Vln. II	Bars 11-16
D	(I)	Answer on Vln. I	Bars 16-21

Most harmonic movement occurs in the middle section (bars 22-43), where the chromatic bass-line from bar 27 onwards is especially striking. At bar 21, a varied Countersubject is

(49) W. Sargeant, Jazz: Hot and Hybrid, London, 1959, p.203, also 'The Scalar Structure of Jazz', pp.147-172.

presented by the piano, concerned primarily with the upper tetrachord: A-D, and though it is first heard in the Blues collection on D, the possibility of a localised centre on A becomes increasingly feasible across bars 22-26. The main figure is (D-C#-C-A), set (4-4), in the 'cello of bars 22-24 and the ambiguity concerns whether (C#-C) is the Blues seventh of D, or the third of A.(A similar context involving set (4-4) exists in the second movement of the Dixtuor.)

There are further instances of 'pastiche' Blues treatment, with vertical opposition of F/F#, on first violin and piano across bars 22-26, superimposed against the lower line of the piano, which expresses the Blues pitches melodically. Even this is without 'bending' of the pitches, a practice reserved for the final section. In the middle of the texture at bar 22, second violin and viola allude to Countertheme 2 of the 'Prélude', now presented in the 'major' mode on D. Beneath, the 'cello has a conflicting five-beat ostinato across four bars, with a localised mode of Ionian on C. Its inclusion prepares for a more persistent source of conflict and disruption in the bass of the piano part, across bars 44-56. From bar 35 onwards, material is fragmented, creating a mosaic-like texture, with direct imitation between violins across bars 39-43.

The recapitulatory section commences with the last three quavers of bar 43: the main material, consisting of the varied Countersubject (now on 'cello, with a diminution on the violins) and the descending scalic bass-line (on piano), is closer to that used at the start of the middle section (50). However, the original fugal subject then enters convincingly on viola, in the Blues collection on D, at bar

(50) The Blues pitches of the varied Countersubject can now be inflected, with subtle 'portamento' on strings, whilst the role of the piano is one of percussive punctuation.

48. The answer is heard on A, played by the 'cello in high tessitura at bar 52. In a sense, the final section is a synthesis of the preceding ones. The intricacy of counterpoint and semblance of improvisation, which are the hall-marks of this movement, are maintained with admirable consistency. Polyrhythmic groupings, first apparent in the middle section, reach their culmination in the final section. Six simultaneous patterns stress unexpected beats, particularly the second quaver of the bar. Additionally, there is conflict between differing lengths of competing ostinati: the treble line of the piano featuring a six-beat group, against a five-beat group in the bass.

The impression gained from the listed modal sequence, in Ex.4.28, is also one of complexity, beyond the end of the exposition. In the middle and final sections, 'fused' modes - usually a mixture of Blues and Phrygian modes - abound. However, the most important collection definitely remains the Blues on D. The miniature three-bar coda contains the only metrical expansion, where, as at the close of the 'Prélude', melody is reduced to scale, and rhythm to an even quaver pulse. Ex.4.23: Harmonic Process examines the strange, apparently unrelated ending, which could be a bi-modal superimposition of Dorian on G# and Ionian on C; or simply C 'major' with added notes. One could argue that since the flattened fifth is the most pronounced pitch feature of Jazz, after the Blues notes, introduction of the enharmonic G# is hardly surprising. Equally, introduction of the C major tonality could be justified as the dominant of F, the focal pitch of the ensuing 'Romance'. Ultimately though, the movement ends by moving off 'at a tangent' to the main argument: perhaps this is simply to remind the listener that this movement is still only a parody of Jazz.

* * * * *

III 'ROMANCE'

The 'Romance' comes closest to Blues chordal progressions and forms, within an overall ternary form, shown in Figure 4.13:

Figure 4.13 FORMAL OUTLINE: III. 'ROMANCE'

TERNARY STRUCTURE (Monothematic)

		Total Bars
SECTION A	Bars 1-34 (17 + 17)	34
SECTION B (Developmental)	Bars 35-58	24
SECTION A'	Bars 59-83	25
INTEGRAL CODA	Bars 79-83	

The thematic content is as for the 'Fugue', under a slightly different guise, hence the labelling as Theme B in Ex.4.12 of the Thematic Analysis. The three introductory bars constitute (α) - encompassing (a) and (c)', after which come two further statements of motive (c). Motive (a) recurs in the second part of the theme, followed by (b) and (β). The 'Romance' also utilises other short melodic fragments from the 'Fugue'. Introductory bars, emphasising 'F7', function as opening and closing gestures here and in the 'Final'. The harmonic content of bars 1-17, in the Mixolydian on F, is examined in Ex.4.24(a) & (b) of Harmonic Process. Despite the dominance of Mixolydian modality, there is persistent ambiguity with the Dorian on C and Ionian on Bb.

Ex.4.24(b) shows a structure that is Blues-like to the extent that it has an AAB construction, within a 12-bar form, (plus two-bar extension) and gives prominence to the subdominant relation of Bb (bar 14). The Jazz-like piano solo continues across bars 20-31, separated by a two-bar scalic 'break', in which there is an ambiguous alternation of F7/C9 chords. This questions again whether the 'Romance' is based on Bb, F or even C 'minor'. The relationship

between these centres is an implied statement of the germinal motive (∝): Bb-C (major 2nd); Bb-F (perfect 4th). Superficially, the melody is centred about C 'minor' (though this is really just the upper segment of the Mixolydian on F). An alternative interpretation would advocate a Bb centre with F7 as its dominant, since a definitive Bb pedal is sounded at bar 14. However, neither interpretation affords sufficient status to the F7 chord and connected Mixolydian on F. The F major 7 scale is featured in the 'break' at bars 18-19, whilst the centre on F is asserted melodically through bars 28-31, so that the most plausible interpretation on the large-scale is to view the 'Romance' within the Mixolydian on F. The close of Section A (bars 31-34) is marked by the return of the introductory bars, the first two-bar phrase heard on piano, the second transferred to the warmer string tones.

At the start of section B, Theme B is transposed up a tone, onto D, the piano assuming an accompanying role, with increasingly chromatic scalic material. In bars 42-7 there is a figuration, using the subsidiary fragment B', which would seem strongly influenced by Gershwin's Rhapsody in Blue, were it not that Milhaud got there first! (51) The importance of the neo-Classical modulatory device of sequence, cannot be over emphasised, with the progression: D - C minor - Bb minor (bars 35-50). The linking passage across bars 51-8 is again generated by the 'pillar' chord F7, within another piano solo. Descending scalic sequences move through F7-G-F#7, as dominant preparation for the return of Section A in B 'minor', with Milhaud's typical octave doubling using notes one step out of phase.

(51) Gershwin's Rhapsody in Blue was composed in 1924. This passage may be connected with the similar bars 18-24 of the 'Scherzo'.

Section A returns at bar 58, transposed down a semitone from the opening. This intriguing section of apparent bi-modality is illustrated in Ex.4.24(c):Harmonic Process. The ambiguity is again over modalities whose roots are a perfect 4th (B-F#) and major 2nd (F#-E) apart. The introduction of F# is appropriate in preparing the centre of the ensuing 'Scherzo'.

The peak is achieved at bar 72, with the first violin's (G#-F#) pitches left 'hanging', as a more dramatic version of the piano's statement at bar 17. This leads into the parallel scalic break at bars 73-4, exploring E 'major', with the ensuing four bars modulating back to the centre on F. The use of contrary motion and pedal points may allude to Baroque practice. Again, the piano provides the linking material, with the only example of metric expansion occurring in bar 78, to allow time for the enharmonic conversion E#:F [Ex.4.24(d): Harmonic Process]. The modal ambiguity means that the return of the F pitch could be seen as a possible V of Bb.

The coda (bars 79-83) returns to the F7/C9 alternation of the introduction, with Theme B reduced to ostinato, back on its C 'minor' melodic pitches. The final cadence, as with other sections of this Jazz-derived movement, concludes on an F11 chord - still with a hint of dominant function (52). The recurrent ambiguity between Eb as the third of C minor, or the seventh of F, was first noted as intrinsic to the modality of Jazz by Hodeir (53). However, on the large-scale, the Mixolydian mode on F is undoubtedly the appropriate collection for the 'Romance'.

* * * * *

(52) Consult Ex.4.24(e): Harmonic Process.
(53) A. Hodeir, Jazz its evolution and essence, New York, 1956, p.254.

IV 'SCHERZO'

In contrast to the lyrical 'Romance', the F#-based 'Scherzo' displays a stark neo-Classicism; though in common with the 'Romance', strong emphasis is placed on the 'dominant', often as a bass pedal. The form is detailed in Figure 4.14:

FIGURE 4.14. FORMAL OUTLINE: 'SCHERZO'
(Ternary - with elements of rondo)

			Total Bars
A	Bars 1-24		24
SECTION A	Bars 1 -16	(16)	
SECTION B (From 'Fugue')	Bars 17-24	(8)	
B	Bars 25-54		29
SECTION A'	Bars 25-40	(15)	
SECTION B'	Bars 41-54	(14)	
A'	Bars 55-67		13
SECTION A'' & CODA	Bars 55-62	(8)	
	Bars 63-67	(5)	

The main Theme C, shown in Ex. 4.13: Thematic Analysis, is derived from Counter-theme 1. Motivically, it consists of three statements of (c), followed by a fifth progression and then (c'), (b'), (a). The opening Section A is a simple 16-bar structure, in common metre, with bars 1-12 based in the Lydian mode on F#, whilst bars 13-16 modulate in neo-Classical fashion to the Ionian on C#. The harmony of bars 1-16 [Ex.4.25(a): Harmonic Process] tends to consist of a simple I-V oscillation, with occasional ambiguity between Ic and V over the C# pedal. Typical of Jazz are the syncopated rhythms of the first section: crotchet/minim/crotchet; two quavers/minim/crotchet. Texturally, this is a chordal opening, as opposed to the fugal counterpoint, from which the inspiration for Section B is drawn.

Sections A and B are neatly dove-tailed at bar 16, changing from four to three-bar phrases. Bars 17-24 are derived from the 'Fugue' and from the Gershwin-like section in the

'Romance' [Ex.4.25(b)]. At the next appearance of Section A (in the central episode), Theme C (on F) conflicts with the persistent C# bass pedal (bar 25 ff.). The introduction of the F pitch as a possible allusion to the 'Romance', [Ex.4.25(c)], balances the reference to the F# modality of the 'Scherzo' in the 'Romance'. As in the 'Romance', there are occasional Romantic gestures, such as the elaborate, scalic anacrusis into bar 33. Section B' of the central episode also incorporates elements of 'Fugue' and 'Romance', such as a three-crotchet ostinato on 'cello, featuring successive fifths: (D#-G#-C#), above which upper strings offer a conflicting three-quaver ostinato [Ex.4.25(d)]. Bars 44-5 demonstrate another scalic 'break', with bar 46 stressing dominant and tonic pedals: 'gardez la pédale'. This passage shows Milhaud's use of the upper registers of viola and 'cello. A more extensive four-bar scalic link with harmonic conflict between C-F#, leads back to the recapitulation (54).

Section A returns at bar 55 and, as in the 'Romance', material is transposed down a semitone to F (bars 55-58), with an abrupt switch to F# for the next four bars. Quadruple trills appear - a feature of Milhaud's neo-Classical and Jazz-influenced works. Bars 63-7 form a five-bar coda over an F# 'tonic' pedal, shown in Ex.4.25(e). A typical 'negro' pentatonic progression heard above, (A#-C#, D#, E, A#-F#), is detailed in Ex.4.13: Thematic Analysis. This exhibits characteristic ambiguity between centres of C# and F# and avoids reference to the leading-note/fourth scalic degree, i.e. pitch B (55). The movement ends with a punctuating pizzicato, in keeping with this motivic, scalic and rhythmic movement, not highly melodic by Milhaud's standards.

* * * * *

(54) Conflict between C-F# is typical in early pieces, e.g. fourth quartet or Dixtuor, but is less common later.

(55) For discussion of this characteristic, consult A. Hodeir, op. cit. Refer also to Analysis 5B 1, p.209.

V. 'FINAL'

The 'Final' draws together ideas from the earlier movements, and commences with a stronger assertion of D 'major' than hitherto. The complex and large-scaled ternary form, outlined in Figure 4.15, is extended at either side by an Introduction and Epilogue, with a Central Episode in Section B. There is a strong sense of symmetry moving towards and away from this central point, in the manner of a Bartókian 'arch-form'. The incorporation of material, particularly from the 'Prélude', also affords a sense of symmetry to the whole work. Techniques for formal extension and development include repetition, sequence, augmentation, diminution and intervallic distortion (56). Theme A (from the 'Prélude') is heard on strings, with block-chords on piano, using traditional raised seventh, shown in Thematic Extension and Transformation, Ex.4.19: Fifth Statement. The 'Final' contains parodies of Blues form and one could regard the introductory bars as a 12-bar Blues structure, with a three-bar addition, reminiscent of bars 13-15 of the 'Romance'. Nevertheless, the phrase structure is still (4 X 3) bars, with D-D# bass movement, as opposed to standard Blues phrasing and harmony (57). Bars 1-12 are examined in Ex.4.26(a) of Harmonic Process.

Section A commences at bar 16, with Theme D, derived from Theme A in its use of the prominent fourth and step-wise motion. The development of this idea, based on F#, is fully documented in Exs. 4.20 - 4.21. The material of Theme D is extensive and is divided into three distinct parts: the first using material from Theme A, the second using material

(56) These techniques are all demonstrable within the extension of Theme D, shown in Exs.4.20-21. Refer also to Analysis 5B 1.
(57) Refer to Ex.4.32 of Analysis 5B 1.

FIGURE 4.15 FORMAL OUTLINE: V 'FINAL'

Large-scale, extended ternary form

			Total Bars
INTRODUCTION ('Prélude' material)	(1-15)		15
SECTION A (Theme D)	(16-31) (32-40) (41-52) (53-59)	44 bars	50
LINK MATERIAL ('Cello Solo)	(60-65)	6 bars	
SECTION B (Theme E)	(66-76)	11 bars	
CENTRAL EPISODE ('Prélude' material)	(77-88)	12 bars	
Short Link	(89-91)	3 bars	
SECTION B (Theme E)	(92-103)	12 bars	50
LINK MATERIAL (Back to Section A)	(104-106) (107-110) (111-115)	12 bars	
SECTION A' (Theme D) (Recapitulatory)	(116-131) (132-140) (141-152) (153-159)	44 bars	50
LINK MATERIAL	(160-165)	6 bars	
EPILOGUE ('Romance'/'Fugue' material)	(166-180)	15 bars	25
CODA	(181-190)	10 bars	

from Theme B and the third consisting of a chromatic descent. Theme D subscribes to the Mixolydian mode, with strong emphasis on the sixth scalic degree. All main motives are present, especially the fourth interval. Allusions to other movements are strong. The Lydian collection on F#, together with the piano's suggestion of the rhythmic figure: crotchet/minim/crotchet, alludes to the 'Scherzo', whilst the Countertheme material on strings evokes the fugal rhythm.

Bars 16-19 (string parts) could be construed as a parody of a riff, identified in Ex.4.26(b) as the simple pattern:

(I-II-V-I), with chromatic descent above (58). Milhaud's practices of octave doubling (piano part) and varying instrumentation, on repetition of the riff, produce the characteristic texture. The strings assume a percussive, punctuating role. Bar 41 marks a more powerful phase within Section A, supported by transposition of material up a tone, this technique being commonly employed in popular music for the same purpose. Demarcation of the end of Section A is provided by the changed nature of the string riff, now with loss of rhythmic identity, played as single crotchets across bars 57-60. At 'Cédez' (bar 60) another textural change is provided by the Jazz-break on solo 'cello, punctuated by upper string chords [Ex.4.26(c)]. Harmonic emphasis is still on F#, in reminiscence of the 'Scherzo'.

Section B starts at bar 66, with a newly derived Theme E (Ex.4.15: Thematic Analysis). Again fourth intervals are prominent, together with motive (d) (minor 6th in ascent), still based on F#, though only using the lower scalic segment (F#-C#), unlike the wider ranging Theme D. Section B has many sub-divisions into 'Cédez' and 'Mouvt'. bars and is itself just a link into the Central Episode at bar 77. At bar 71 of Section B, Countertheme 1 returns, on F#, with Theme E (including triplets) above. The Central Episode (bars 77-88), alluding back to the 'Prélude', in B 'minor', is perhaps the best illustration of Blues structure, nonetheless stylised [Ex.4.26(d): Harmonic Process]. The adoption of Aeolian/Harmonic minor mode on B is surprising, in view of the return of Countertheme 1 to its original D/F(#) pitches. The harmonic structure still follows the I-II-V-I format. From this point on, excepting the bars 88-91 where piano assumes the chordal riff, the 'Final' works structurally in retrograde.

(58) This is the same basic progression as used for the order of fugal entry in the second movement.

Section B returns between bars 92-103, transposed up a semitone, into the Lydian on G, with bars 97 and 70 corresponding. Texturally, the viola parodies a Jazz glissando and triplet/quintuplet groupings are introduced in semblance of improvisation. Bars 104-115 link to Section A at bar 116. Bar 104 (marked 'Animez' as bar 88) is based on the Lydian mode on Eb, with the parallel two-bar scalic break occurring on Eb across bars 108-9 and the point of arrival at bar 110, featuring a d13 chord. Material is derived from 'Prélude','Fugue' (in augmentation) and 'Romance' (with intervallic distortion), illustrated in Ex.4.26(e): Harmonic Process.

In the recapitulation, Theme D (Third Statement: bars 116-152) returns on D, typically combined with the fugal countersubject, the four-chord riff [Ex.4.26(f)] and, at bar 118, the fugal subject on viola. The music thrives on repetition which creates its own momentum, together with a 'mock' improvisatory effect. As in the 'Fugue', continually changing mosaic patterns produce a mesmeric pastiche of Jazz. The fourth statement of Theme D, on D, occurs across bars 153-165; 166-180. At the end of Section A (bars 159-164), the F#-D melodic movement derived from the fugal subject, is most prominent. Bars 160-165 link into the Epilogue, as the previous 'cello bars: 60-65. D7 is clearly asserted in the bass at bar 60, which then continues as the riff pattern, considerably augmented. Each chord spans a two-bar period, in an effective reduction of momentum. Further use of material from the 'Fugue' includes the three-note chromatic descent, subject to much sequential repetition. The cadence across bars 165-7 derives from the introduction of the 'Romance' [Ex.4.26(g): Harmonic Process].

The Epilogue (bars 166-180) features a melancholy viola solo, weaving chromatically below the piano's melodic line from the 'Romance'. The result is a lyrical interlude, with limited imitation by means of augmentation and diminution. At bar 176, Theme B from the 'Romance' appears on the tonic and the section concludes as it began, with the introductory chord, now D7. The Coda commences at bar 181 with a sustained cadential figure, the A9 chord resolving at 'Mouvt.' in bar 182. In the original Blues collection on D are final allusions to the fugal interplay. The three-quaver anacrusis returns and, in genuine dialogue, material is assumed by each string instrument in turn, first descending, then ascending in pitch. The piano resumes its accompanying role with a derived three-bar riff: E7-A9-D7 [Ex.4.26(h)]. The final two bars use the cadential figure from the 'Romance' for the last time, highlighting the Blues flattened seventh, which in keeping with 'real' Blues never quite resolves: V9 - I7#.

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CONCLUSION

The conclusion focuses on modal types, (Ex.4.29), following extensive monitoring within each movement along the lines of Exs. 4.27-28, the relationship between tetrachordal division of modes and themes (Ex.4.30), and the pattern of modal centres across the work (Ex.4.31). In summarising modes, a major third-minor third distinction has been made, in order to consider the deviation from standard major or minor scales (59). Thus Ex.4.29 nos. 1-3 are major third forms; whilst 4-7 are minor third forms. Each mode is divided into upper and lower tetrachords and patterns of symmetry are established by calculating the semitonal pitch content. The Dorian mode (Ex.4.29, no.6) is a good example of complete tetrachordal symmetry, though it occurs less often in La

(59) See also Chapter 2, p.89, footnote 95.

Création du Monde than the Aeolian. Ex.4.29, no.8 shows common ground between combined modes on D and the Blues collection on D. The Blues collection may be viewed as a product of modal mixture: a hybrid of Ionian/Aeolian or Mixolydian/harmonic minor. However, it is used in a distinctive manner, highlighting interplay between the 'Blue' and 'real' note on the third, seventh and sometimes sixth degrees. The creation of such modal models from contexts within La Création, stresses the instinctive, flexible nature of Milhaud's modality, with close relations between collections.

The thematic basis of La Création is founded on tetrachordal division, or at least on division into upper and lower scalic segments, pivoting about the fifth degree (Ex.4.30) (60). Many themes are confined to the upper segment (A-D) i.e. Material A; or to its complement, the lower segment (D-A) i.e. Material B, each segment featuring strongly the Blues notes. Designations of A and B Material are used simply because the initial Theme A ('Prélude') utilises the upper tetrachord, whilst its Counterthemes refer only to the lower part of the scale, as if in anticipation of Theme B ('Fugue' and 'Romance'). Sometimes upper and lower segments are embraced within distinct halves of the same theme, e.g. Theme D, with Material A then B; Theme E, with the converse, Material B then A. This practice of balancing the complementary segments of a mode is a fundamental concept in La Création. Final remarks concern the pitch outline across the five movements of the Suite de Concert (Ex.4.31: Overall Progression). It is surely more than coincidence that the modal centres form the pattern (D-d-F-F#-D), since this also represents the most fundamental Blues progression. The irony is that no genuine piece of Jazz would be so prescriptive, or faithful to the 'letter'!

(60) Refer back to the partitioning of the Blues scale in Chapter 2, pp.79-80.

ANALYSIS 5B 1

COMPARISON BETWEEN THE SUITE DE CONCERT OP.81b AND THE STANDARD PRACTICE OF JAZZ

This first comparative analysis aims to establish how closely Milhaud's compositional procedures, embracing the parameters of structure, harmony, rhythm, melody, and embellishment in La Création du Monde, correspond with standard principles of Jazz. Comparison is made between La Création and a comprehensive practical guide to Jazz improvisation: Walter Stuart's Encyclopedia of Improvisation (61). Although written in 1972, this guide remains amongst the most practical and analytical and is valuable in providing quotations of original Jazz themes, which have not in any case changed during the years. Some correspondences between Milhaud's work and Stuart's Encyclopedia are surprisingly close.

Analysis commences with aspects of structure and harmony, quoting the basic and elaborated Blues chordal forms: [Ex.4.32(a) & (b)], that are the framework of traditional Jazz (62). In Ex.4.32(b), 'the additional chords (and moving melodic materials) have expanded the Blues concept into a larger form of composition, away from the early traditional Blues' (63). There is superficial formal correspondence, since some passages in La Création use 12-bar structures, though usually they are not very similar, harmonically, to the Blues model. Examples include bars 1-11, 31-41, 56-67

(61) 'Standard practice' is represented by W. Stuart's Encyclopedia of Improvisation, New York, 1972; and A. Hodeir's Jazz: its evolution and essence, Paris, 1956, tr. D. Noakes, London, 1958.
(62) Simple Blues models Exs. 4.32(a) & (b) are quoted from W. Stuart's Encyclopedia, 'Ad lib', p.19; 'Jazz Improvising: Expanded Blues concept', p.9.
(63) Op.cit., p.9.

and 83-91 of the 'Prélude'; and bars 4-15, (with two-bar extension), of the 'Romance'. This latter section has a particularly close correspondence with Blues form, since the 12-bar form (bars 4-15) also has an AAB melodic construction, like the three-line Blues lyrics. In the 'Final', bars 1-12 (with two-bar extension) and especially the central episode (bars 77-88) are further examples of stylised Blues structures, working to the simple harmonic pattern: I-II-V-I.

Exs. 4.33(a) and (b) show clear correspondences in the selection of dominant-type concluding chords (64), a common feature of Jazz. The conclusion of the 'Romance' is compared with a similar Bb/F-based song: 'I've got rhythm' (65). Ex.4.34 illustrates how typical is Milhaud's selection of chords for his riff in the 'Final', in comparison with the choice of chords in the popular song: 'Sweet Lorraine' (66); and Exs.4.35-7 show similar treatment of anticipations, standard suspensions and 'free', unresolved suspensions. In Ex.4.35, anticipations in the 'Final' are compared with their treatment in the popular song: 'A Tisket a Tasket' (67). Ex.4.36 shows correspondence in treatment of suspensions between the first and third movements and common Jazz practice (68); and Ex. 4.37 details the use of the unresolved neighbour-note: 'a device often heard in the final chord of the solo' (69). Indeed, the device is used in exactly this fashion at the end of La Création du Monde.

In the rhythmic parameter, Exs. 4.38 - 43 demonstrate how typical is Milhaud's choice of patterns in the 'Fugue'

(64) In each example, (a) quotes from La Création and (b) refers to Jazz practice.
(65) W. Stuart, Encyclopedia, 'Jazz Improvising', p.2.
(66) Loc. cit.
(67) Op. cit., S. Applebaum:'How to Improvise', p.28.
(68) Op. cit., 'How to Improvise', p.29.
(69) Op. cit., 'How to Improvise', p.30.

and 'Romance', especially in the use of three anacrusic notes. Ex.4.38 demonstrates correspondence between Milhaud's approach and standard Jazz practice in opposing repeated rhythmic fragments and regular metres. As Stuart states: 'it is often effective to use rhythmic variations in Jazz improvisation. One such example is the superimposition of a 3/4 or 5/4 rhythmic pattern on a regular 4-beat [metre]' (70). Ex.4.39 shows how the choice of rhythmic (and melodic) pattern for the 'Fugue' is similar to that used in traditional Jazz, by comparison with 'Typical Jazz Rhythm Patterns' (71), whilst Ex.4.40 compares another Blues melody: 'Blues on G' (72), featuring a typical ending on chord V, with Milhaud's 'Fugue'. Such is also the brief of Exs.4.41 - 42, embracing phrase extension by means of implication-realisation (73). Finally, Ex.4.43 compares rhythmic/pitch patterns (including rhythmic augmentation), found in the 'Romance', with those in Jazz (74).

Exs.4.44 - 46 are concerned with repetition and sequence, often chromatic. Ex.4.44 examines the use of ostinato in Jazz, often with a restricted, chromatic range of pitches (75). Phrase extension by means of repeated chromatic patterns is common, as shown in Ex.4.45, often using third, fourth, or fifth intervals in prolonged ascent or descent (76). Further illustrations of sequential chromatic phrases are found in the 'Final' of La Création and in Jazz

(70) 'Jazz Improvising: Rhythmic variations', p.13.
(71) 'Jazz Improvising', p.5.
(72) 'The Jazz Soloist: The Blues', p.19.
(73) Blues phrase in Ex.4.41 quoted from 'The Jazz Soloist, p.26; and in Ex.4.42, from 'The Jazz Soloist', p.21.
(74) 'Jazz and "Ad lib" ', p.11.
(75) Illustrations for Ex.4.44: from 'Jazz Improvising', p.12.
(76) Illustrations for Ex.4.45: from 'Jazz Improvising', p.16; and for comparison with the 'Scherzo': 'Jazz and "ad lib": How to use fourth interval passages', p.17.

formulae, demonstrated by Ex.4.46 (77). Exs. 4.47-48 provide further examples of chromaticism in La Création and standard Jazz formulae; Milhaud's treatment of Blues notes is most convincing. Ex.4.47 observes general chromaticism, shaped into ascending/descending curves, both in the 'Romance' and in Jazz (78); whilst Ex.4.48 looks at Blues notes (in 'major' and 'minor' modal contexts), illustrated by examples from the 'Fugue' (79) and 'Prélude' (80). Ex.4.49 shows how Milhaud has recognized and appreciated the special quality of the sixth scalic degree in negro-spiritual music and Jazz. The quotation from the 'Final' in Ex.4.49 is compared with the third line of 'Swing low, sweet chariot' (81).

The final comparisons, Exs. 4.50 - 51 are concerned with a superficial, yet crucial aspect of Jazz: embellishment, without which improvisation could not exist. Milhaud's incorporation of 'neighbour-notes' and grace-notes is admirably in keeping with Jazz practice. Ex.4.50 examines what Stuart would describe as upper and lower neighbour-notes in the 'Romance' and 'Prélude', comparing them with standard Jazz practice (82). As quoted in Analysis 5A, Stuart maintains that neighbour-notes 'always precede the tone they embellish' (83), unless used as a mordent. It should be noted that he views the chromatic passing-note as a type of neighbour-note. Ex.4.51 details instances of single, double and triple 'grace'-notes or acciaccaturas. Milhaud also introduces, in similar fashion, other forms of decoration that are regarded by Stuart as intrinsic to Jazz,

(77) Jazz example from: W. Stuart, 'Jazz Improvising', p.16.
(78) Jazz example from 'Jazz Improvising', p.15.
(79) Jazz example from: W.Stuart, 'Jazz and "Ad lib"', p.13.
(80) Jazz example from 'Jazz and "Ad lib" ', p.15.
(81) Jazz example from: op. cit., B. Bower, 'Ad Lib', p.7.
(82) Standard Jazz practice is as adopted in op. cit., S. Applebaum, 'How to Improvise', pp.2-4.
(83) Loc.cit.

e.g. glissando (84) and especially the trill (85). Finally, one should add that Stuart's Encyclopedia encourages the incorporation of modes (including investigation of partitioning) and 'new' scales within a Jazz context and thus provides further justification of the analytical approach adopted in this dissertation (86).

* * * * *

A different perspective on the issue of correspondence is offered by André Hodeir in his perspicacious and provocative book, Jazz: its evolution and essence. He opens by remarking that La Création du Monde shows: 'such faithfulness to the letter, if not to the spirit, of the Blues' (87). Hodeir goes on to discuss Milhaud's use of rhythmic accentuation and the conflict of one line against another:

> (the) impression of disorder is undoubtedly intentional, even though the composer does not always seem to be in control of the forces he has unleased (88).

He asserts that 'not one of these rhythms, syncopated or otherwise, has more than an incidental similarity to good jazz of the period'. The point is contentious in the light of the earlier comparisons (Exs. 4.38 - 43), though Hodeir does explain why he considers Milhaud's rhythmic treatment inauthentic. In his opinion, the problem is that the real Jazz beat has been compromised by Milhaud's 'penchant' for poly-rhythm:

(84) Usage of glissando discussed in 'How to Improvise', pp.22-23
(85) Usage of trills discussed in: 'How to Improvise', pp.2-4.
(86) 'Jazz and "ad lib" ': 'How to construct and use new artificial scales', pp.25-26; also sections on modes, whole-tone scale and 12-note technique.
(87) Hodeir, op. cit., p.252.
(88) Hodeir, op. cit., p.258.

> The reason is that the composer of La Création was set on going jazz rhythms one better. By introducing a certain type of polyrhythm, he destroyed the very bases of jazz rhythm (89).

In response to this criticism, it would seem curious for Milhaud to destroy this basic pulse deliberately, because, in Ma Vie Heureuse, he comments on the 'inner beat' as being one of the main attractions of Jazz for him (90).

Hodeir also criticises the opening of La Création du Monde from a harmonic perspective, declaring that the 'F-F#' vertical conflict within the Blues scale on D is not the correct treatment of Blues third; and that this is in any case too early for harmonic instability, in a piece where tonality is later important (91). Certainly the Blues third of the opening is not authentic, but a parody. However, it can be argued that the 'D' basis of the work is still clearly established by a tonic pedal and that Milhaud's use of 'mélange' creates an appropriate sense of expectancy. The ambiguity of mode can be effective. More positively, Hodeir stresses the authenticity of Milhaud's modulatory technique, whereby a Blues note on the third is transformed into one on the seventh degree of a new tonic (92), such as in the 'Romance'. Hodeir suggests the concept of a 'complex of Blues notes', exploiting tonal ambiguity. The irony is that Milhaud's music explores the Blues phenomenon more thoroughly than the music he sought to emulate! His constant fluctuation between lowered and raised seventh degrees 'creates a harmonic relation that Duke Ellington came across on his own several years later and used as one of the bases of his dissonant system' (93).

(89) Hodeir, op. cit., p.260.
(90) Refer back to the first section of Chapter 4, p.155, footnote 10.
(91) Hodeir, op. cit., p.255.
(92) Hodeir, op. cit., p.254.
(93) Hodeir, op. cit., p.255.

Milhaud's music abounds in melodic passages inspired by the Blues scale, as in the 'Fugue' and the end of the 'Scherzo', with its figure: (A#,C#,D#,E). The authenticity of this particular figure is supported by the pioneering Jazz writer, Winthrop Sargeant, who quotes a remarkably similar shape, when discussing typical endings of Negroid melody which 'coincide with the principle of melodic movement peculiar to the blues tetrachordal grouping: (A,C,D,Eb)' (94). Milhaud's treatment of Blues notes is flexible, as in the very design of the fugal countersubject, (Ex.4.11), which contains the motive from the celebrated 'St. Louis Blues'. The first four pitches of the fugal subject: (D-E-D-F) were 'particularly prized' by Jazz-inspired composers (95). With reference to this subject, (Ex.4.11.), Hodeir declares that: 'the composer got close here to the true significance of the Blues scale: its instability' (96).

The way in which Milhaud brings the subject around to its subdominant at the conclusion of the phrase has been remarked on earlier. Hodeir finds this especially significant and, in relation to the harmonic 'climate' and evolution of the Blues, he concludes that:

> (these) result above all from a perpetual interplay between the tonic and sudbdominant. Milhaud seems to have understood this perfectly (97).

Even here, though, one could argue that Milhaud's own style and imagination sometimes carry him away from Jazz, such as when he allows major and minor clashes in different octaves and without glissandi (98). Once more, this highlights the

(94) W. Sargeant, Jazz Hot and Hybrid, p.203.
(95) The motive is used in Gershwin's Rhapsody in Blue (1924).
(96) Hodeir, op. cit., p.253.
(97) Hodeir, op. cit., p.254.
(98) Consult bars 325-8 of the full score (Op.81): transitional passage, featuring the oboe.

opposition between the poles of Jazz and neo-Classicism, integral yet conflicting parts of Milhaud's compositional identity, discussed further in Chapter 6.

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ANALYSIS 5B 2

COMPARISON BETWEEN THE TWO VERSIONS OF LA CREATION DU MONDE: OP.81 BALLET (1923) AND OP.81B 'SUITE DE CONCERT' (1926)

It is curious that Milhaud should have wished to produce a Suite de Concert version of La Création du Monde at all. By 1926, his enthusiasm for Jazz was already waning, so why should he have wanted to revise and rearrange his most overtly Jazz-inspired composition? The only explanation has to be that he wanted to 'update' the work to fit the dictates of his emerging neo-Classical aesthetic. At the risk of over-simplification, the original ballet Op.81 may be identified as the 'Jazz version' and the Concert Suite Op.81b as the 'neo-Classical version'. In fact both versions to some extent share the synthesis of Jazz/Blues procedures and neo-Classical modality.

The main changes are of instrumentation and scoring, with a reduction from 17 'mixed' soloists to 5 'homogenous' soloists: as a piano quintet. Essentially, the original score lay-out of two violins, saxophone, 'cello and double-bass, is transferred to two violins, viola, 'cello and piano. Both versions contain the same basic material, though there are fewer repeats, doublings and expressive markings in Op.81b. As before, most detailed reference is made to the 'Prélude' and 'Fugue'.

At the start of the 'Prélude', the piano assumes the original saxophone line: a curious substitution, since the

piano can only mimic Blues notes. The 'cello takes the double-bass line. The point about reduced expressive markings is supported by the omission of the 'chanté' indication for Theme A. String trills are introduced into violin II (bars 1-9) and viola (bars 12-19), possibly as compensation for the lack of side-drum roll (bars 10-11; 20-21). However, the addition of trills brings a new quality of its own. Further embellishment is introduced with the piano's decorative 'fourth' transpositions (bars 50-55), balanced by textural simplification in the strings at bar 53. Again the changes are superficial and the harmony is hardly modified. At bar 59, viola and 'cello assume the clarinet's material, but the piano accompaniment remains close to the original. Generally, the piano writing tends to be heavier in the chamber version, as octave doublings are introduced for added weight. Sometimes accentuation in the chamber version is more frequent and forceful than in the original, as at bar 74, where Op.81 accentuates beats 2 and 4, whilst Op.81b accents every crotchet beat.

In the recapitulation (bar 83) of Op.81b, the viola logically assumes the role of the saxophone, since, in Op.81, the saxophone was included at the point in the score where one would expect the viola. The pitch ranges and mellow tone qualities of the two instruments are not dissimilar. In Op.81, bar 96 onwards continues to feature the saxophone, whereas this point in the chamber version features a change of instrumental colour, with melodic material transfered from viola to violin I. In Op.81, scalic patterns across bars 97-105 are assigned to a diverse group of horn, saxophone, bassoon and 'cello, whereas in Op.81b the material is assigned to the homogenous string quartet. Although the 'Prélude' is not so named in the original, its 106 bars correspond exactly, at which point in the original ballet the curtain rises.

The 'Fugue' perhaps loses something in the chamber transcription, since one original strength lay in the percussive backing of the fugal material, by harp arpeggios, timpani rolls and side-drum/bass-drum punctuation. However, Op. 81b has a new timbral consistency. The two introductory bars are omitted in the chamber version, after which the fugal entries appear on 'cello, viola, violin II and violin I; as opposed to the disparate entries on double-bass, trombone, saxophone and trumpet. However, the first subject entry is definitely more novel and dramatic when played by the original double-bass, than by the 'cello. Accentuation and dynamic levels of the original are preserved in the transcription. There are small instrumental changes in Op.81b, where originally oboe and saxophone were prominent. Single pitches for the double-bass in Op.81 (bar 130) are elaborated in Op.81b as three-part pizzicato chords on 'cello (bar 22). The piano writing, as in the 'Prélude', is more intricate and complex in Op.81b than in the original, demonstrated by the two-bar coda which is scalic in both versions, but uses both descending and ascending patterns in Op.81b. Op.81 has no equivalent to Op.81b's final bar of repose, bar 58 (99): however, the original ballet features instead a more extensive return to the 'Prélude' material at bar 179 (Op.81). Here the 'spring-time of the world begins'. Although the repetition is omitted in Op.81b, this is hardly a weakness, since the material was in danger of being overstated anyway.

In the remaining movements, differences between the versions also tend to be of instrumentation. Timbral contrast is undoubtedly reduced in Op.81b, but is replaced by a new intimate quality of chamber music. The piano solos in the 'Romance' are important in this respect. Orchestral-type markings are usually omitted from Op.81b, e.g. the

(99) Consult p.18 of Op.81, which marks the end of the first section.

'swell' markings in bars 16-17 of the 'Romance'. Milhaud is concerned to vary register when using the more limited forces of Op.81b, e.g. the pianistic treatment of the Gershwin-like section, at bar 42 of the 'Romance'. Each version has its merits: Op.81b (bars 51-8) features an effective pianistic development of an original flute pattern, whereas Op.81 (250-7) has the special colouring of flutter-tonguing: 'tremolo en roulant la langue'.

Some sections of the chamber version are contracted from the original, yet others are expanded, e.g. the final seven bars of the 'Romance' expanded from an original two bars: 347-8. In addition, bars (e.g. 55-83) are re-ordered, appearing earlier in the chamber version than in the original (100). The 'Scherzo' occurs originally as an interlude between sections of the 'Romance' (101), as did the 'Fugue' between sections of the 'Prélude'. In the 'Scherzo' of Op.81b a more neo-Classical quality is achieved, with reduced accentuation and sparse directions. The basic instrumentation corresponds closely: two violins, 'cello, double-bass, as against two violins, viola and 'cello; but the percussive effects on 'baguettes', 'caisse claire' and 'grosse caisse', supporting the fugal interpolations, are obviously unavailable in the 'Scherzo' of Op.81b. However, the piano accompaniment in the chamber version is again more demanding than the original, quadruple trills (bars 59-62 of the recapitulation) are unique to the concert suite, and bars 63-7 of the coda are more succinct, condensed from an original nine bars.

The chamber 'Final' is Part IV of the original ballet. Again some material is reordered: bars 1-15 of the 'Final' in Op.81b correspond with bars 525-537 of Op.81. Some details

(100) These bars originally occurred across 330-348, where material from the 'Romance' and 'Scherzo' is combined.
(101) Consult bars 258-328 of Op.81, labelled section III.

of the piano accompaniment are simplified in Op.81b, e.g. around bar 36; yet the 'cello part is more wide ranging, compensating for the lack of double-bass, e.g. bar 41 compared with bar 374 (Op.81). Although there are small textural changes, the harmony corresponds closely.

The first significant changes are the interpolation of a scalic passage on piano, and a D7 chord (bars 107-9). A 16-bar link into the recapitulation in Op.81 is condensed to 5 bars in Op.81b (110-114). Percussive effects on metal/wood blocks and cymbals cannot be reproduced in Op.81b. There are registral changes, e.g. bars 131-2, where the first violin descends a semitone, as opposed to the angular seventh contour on saxophone (bars 474-5 of Op.81). The effect in the Suite de Concert is less dramatic, but more controlled. Both versions use 'tutti' forces for the climax at bar 142, with bar 153 of the chamber version more heavily accented than the original. The harmony of the riffs corresponds, though arranged differently. In the original coda (bar 525 ff.), Milhaud inserted references to the 'Prélude', which are contained in the introduction to the 'Final' of Op.81b. Bars 182 (Op.81b) and 538 (Op.81) correspond; but in Op.81b the original flute melody is effectively distributed amongst the quartet. The final cadential bars correspond exactly across the two versions, with viola and piano assuming the original saxophone line.

CONCLUSION

The main differences are of superficial arrangement, re-ordering, omission and compression. Although the Suite de Concert Op.81b only expresses part of the whole and loses some original instrumental effects, it has new qualities: clarity, precision and a more overt neo-Classicism than the original ballet. Op.81b is effective chamber music and a valuable contribution to the piano quintet repertory.

styles'(2), as a reaction against the excesses of late-Romanticism. Despite the backward-looking nature of neo-Classicism, and, in the words of Keller, its 'suppression of expressionism', the aim is not to remove all hint of expressiveness (3), or progressiveness. Whittall comments that 'the prefix "neo", often carries the implication of parody, or distortion of truly Classical traits' (4). Many neo-Classical composers, including Milhaud, do make use of wit, economy and allusion to earlier practice, particularly from the Baroque period. Hence the 'Back to Bach' tag attached to many works. Consider for instance, Milhaud's orchestral arrangement, Introduction et Allegro Op.220. (1940), from the Suite: La Sultane, by François Couperin.

Salzman has suggested that a better, more comprehensive term than 'neo-Classical' would be 'neo-tonal' (5). However, in the case of Milhaud's oeuvre, such a term would be far too general. Most of Milhaud's works fit under a 'neo-tonal' or at least 'neo-modal' umbrella, including the Jazz-inspired pieces, which are quite distinct from those based on earlier Western European textures and formal outlines. In respect of Milhaud's neo-Classicism, a well-documented comment of Pierre Boulez about 'dead forms' bringing about 'dead musical ideas' seems inappropriate (6). Milhaud's aims are, on the contrary, quite positive: although he uses 'dead' forms and textures, his work seems to be striving towards a further goal, of total contrapuntal independence. In the 1920s, at least, his works also take on board ideas from his early experimentation and from Jazz. In discussing Milhaud's neo-Classicism, Arnold Whittall's cautionary note will be heeded:

(2) A. Whittall, 'neo-classical', in The New Grove, vol. 13, ed. S. Sadie, London, 1985, p.104.
(3) Quoted by A. Whittall, loc. cit.
(4) A. Whittall, loc.cit.
(5) E. Salzman, Twentieth-Century Music: An Introduction, Englewood Cliffs, 1967, revised edition 1974, p.44.
(6) Quoted by A. Whittall, loc. cit.

> the dangers of unproductive over-simplification are probably greater than for any other style or period, and the most valuable approach so far has been that of such analysts as Salzer, whose often very substantial modifications of Schenkerian principles can at least indicate the extent to which certain works may properly be defined as 'tonal' at all (7).

The work of one more writer must be mentioned in this initial discussion: Scott Messing's scholarly piece of research, which attempts to define what is meant by 'neo-Classicism' (8). Messing rightly considers that the term is often invoked very loosely and can be interpreted so widely that:

> a collation of usages produced such a variety of meaning that the expression seemed to possess no syntactical weight whatsoever (9).

Thus it follows that the term must not be used indiscriminately and must be clearly defined. The chapters, within Scott Messing's book, on 'Neoclassicism in France 1914-1923' and 'Neoclassicism and Stravinsky' are particularly pertinent to the present study. The first of these chapters quotes from Milhaud's 'The Evolution of Modern Music in Paris and in Vienna' (10). The quotation stresses differences between diatonic and chromatic composition, and between Latin and Teutonic approaches, in a way which now seems simplistic and too zealously categorised. Messing also discusses reviews of the première of Stravinsky's Mavra, and Boris de Schloezer's comments on neo-Classicism:

(7) A. Whittall, op. cit., p.105.
(8) S. Messing, Neoclassicism in Music, From the Genesis of the Concept through the Schoenberg/Stravinsky Polemic, Ann Arbor, (London,) 1988.
(9) S. Messing, op. cit., Preface, p.xiii.
(10) Published in the North American Review, April 1923, pp. 544-554.

> pure music, stripped of all psychological meaning; the sentiments, emotions and desires...are here enclosed in a rigorous form which subdues them, purifies them and gives them an exclusively resonant existence (11).

Messing's conclusions are that: 'from its birth, neoclassicism was reckoned as an aesthetic idea...Its use as an indicator of style was, by contrast, a relatively late development' (12). He considers that 'neo-Classicism' was a more useful notion in the 1920s than today: 'a convenient code by which French composers could put forward aesthetic ideas based upon a nostalgic evocation of a moribund style' (13); and that: 'the gradual disrepute into which the word neoclassicism fell is parallel to the rise in literature on Stravinsky and Schoenberg which has devised increasingly elegant methods for analysing their music' (14). However, I am convinced that there is still a place for neo-Classicism in musical analysis today; or, at least, that there is not yet any satisfactory, alternative perspective. Although the examples in Messing's work are not directly relevant, his advice and caution enabled me to adopt a more considered approach to this aspect of Milhaud's music.

In defining neo-Classicism in Milhaud's music, one must embrace the composer's own thoughts, from Ma Vie Heureuse, on the future direction of French music and the nature of neo-Classicism. In fact, Milhaud's comments, which support the general statements above, have already been discussed in Chapter 1: 'The Elements of Milhaud's Music', and were used to head this chapter. Perhaps Milhaud's most obviously neo-Classical undertaking before 1930 is the set of six chamber symphonies (1917-1923). Some of these were mentioned in connection with early experimentation and the development of

(11) 'La saison musicale' Nouvelle revue française, 1 August 1923.
(12) S. Messing, op. cit., p.151.
(13) Loc. cit.
(14) Op. cit., p.153.

the Jazz style: however, the whole series is underpinned by an increasingly strong neo-Classicism. If one had to cite a neo-Classical prototype in Milhaud's oeuvre it would tempting to select the first chamber symphony (1917), although the style and accompanying techniques are only incipient and still owe something to Impressionism. A less controversial choice would be the fourth chamber symphony, or Dixtuor à Cordes (1921), with its 'Ouverture', 'Choral' and 'Etude' (fugue).

The set is best regarded as part of a revival of interest in Baroque structure and proportion. It is hard to imagine Milhaud's being unaffected by Bach's set of Brandenburg Concerti. Superficially, Milhaud's works too have important dedications, though of a more personal nature, and the sub-title of the first symphony, 'Le Printemps', inevitably creates associations with Vivaldi. Milhaud's set is roughly contemporary with Hindemith's Kammermusik series (1922-27); and, interestingly, Milhaud's fifth chamber symphony: the Dixtuor d'Instruments à Vent, Stravinsky's wind octet and Hindemith's Kleine Kammermusik for wind quintet were all written in 1922. In Ma Vie Heureuse, Milhaud explains the appeal of this genre:

> I was attracted by the unusual quality of small groups of instruments, and embarked on a series of 'Petites Symphonies' for seven or more different instruments (15).

He saw the works as 'experiments in tonal independence', in the manner of a 'symphony' of Monteverdi's period. Milhaud remarks that the audience, 'ignorant or forgetful of the fact that in the days of Monteverdi the word "symphony" was sometimes use to denote a single page of instrumental music... was shocked by the brevity of my piece' (16). These

(15) M.V.H., p.69.
(16) M.V.H., pp.69-70.

works contain elements of both 'concerto' and 'symphony', i.e. 'concerted' music, and 'sounding together', in the literal meaning of 'sinfonia'.

Although Collaer and Milhaud favour the fifth symphony, the fourth and sixth seem much more successful in terms of motivic unity and strength of form. The fifth is a fascinating, if flawed, experimental work. Collaer makes an important statement, with reference to this fifth symphony, but applicable elsewhere:

> Les accords n'interviennent la plupart du temps qu'aux points d'articulation des sections dont se compose la forme (17).

This is an appropriate generalisation of the role of chordal passages in Milhaud's chamber music; and also serves to highlight common ground with Hindemith's 'pillar chords' (18). All of the symphonies exhibit great formal economy, usually relying on a single principle: the exposition of material, without any traditional development. The effect can be 'kaleidoscopic'. Milhaud employs typically Baroque procedures of canon, fugue, inversion, retrograde, augmentation and diminution. There is the notion of 'concerto grosso', with 'concertino' and 'ripieno' groupings, in the second and third movements of the fifth chamber symphony, amongst others. After the years of the early 1920s, there are no further works of 'concerted' chamber music before the Aspen Serenade (1957).

Milhaud's sixth and seventh quartets (1922, 1925) are much more neo-Classical in style than the fourth or fifth, though they are not completely free of other traits. The sixth

(17) P. Collaer, Darius Milhaud, 1982, p.330. My translation: 'Most of the time, chords only occur at the articulation points of the sections which comprise the form . '
(18) D. Neumeyer, Paul Hindemith, p.39.

still involves modal mixture at the third and limited chromaticism. Nevertheless, the structures are more compact than in the fifth: relative durations are of 8'45", as against 20'40" ! As with the ending of the second 'opéra-minute', the textures of the finale of the sixth quartet, with alternating 3/8, 4/8 metre, strongly suggest Stravinskian influence. The finale of the seventh quartet is a highly neo-Classical (or Baroque) fugue, with a witty 'off-beat' conclusion. However, vestiges of the Jazz style persist in the second movement, 'Doux et sans hâte', with melodic presentation of the Blues third, as in the 'cello line around bar 52.

Connected to absolute music for quartet is the continuing interest in the sonata, or sonatina. The flute sonatina (1922) still has a stylistic mixture, but is much developed from the early late-Romantic violin sonatas. The first truly neo-Classical product is the clarinet sonatina (1927), which also has an added 'dramatic' dimension, acquired through the increased interest in opera, discussed below. 1927 also marks the year of a transcription/arrangement of a late eighteenth-century work: Trois Caprices de Paganini (1927). Three of the extraordinary 24 Caprices Op.1, for solo violin, by Niccolo Paganini (1782-1840), are arranged for violin and piano. Milhaud's desire to undertake this task again suggests that he finds inspiration for his future compositions in the past.

This trend is taken to a further extreme in the vocal works based on the texts and history of Classical Rome and Greece, such as Quatre Poèmes de Catulle (1923), in French translation, for voice and violin. The ancient Roman lyric poet: Gaius Valerius Catullus (84-54 B.C.) was particularly noted for his love poetry, of which the four poems are typical examples. This is one of Milhaud's most effectively simple works and provides a superb example of natural

modality. Even here, though, there are hints of the Blues scale. Les Malheurs d'Orphée and the three 'opéras-minute', take their inspiration from Classical Greece. Milhaud commented, in Ma Vie Heuruese, that Les Malheurs d'Orphée was the first of a series of chamber operas that he wrote, where: 'les éléments sonores ... sont réduits au minimum' (19). Although emphatically not a product of Greek Classicism, Milhaud might have regarded Le Pauvre Matelot (1926), with its libretto by Jean Cocteau, as the next in that chamber series.

1927 saw the composition of the trilogy of 'opéras-minute', representing the epitome of Milhaud's classically inspired dramas of the 1920s. Their combined performance time is only 27 minutes, the idea being to produce 'little showpieces, rather than intense emotional dramas. They are exquisite chamber music, with charming melodic lines, delicate sonorities, and a touch of irony' (20), the treatment of the myths not being entirely serious. The success of these miniatures lies in their clarity of modal language and linear elegance. The increased 'dramatic' perspective, evident from 1924 onwards, paves the way for the 'grand opéra' projects of Christophe Colomb (1928) and Maximilien (1930). Christophe Colomb might well be viewed as the culmination of Milhaud's achievement at the close of this present period of study, and is indeed the main reason for the five-year break in the previously continuous composition of chamber music.

* * * * *

(19) Darius Milhaud, M.V.H., p.141: 'the elements of sound are reduced to the bare minimum'. Note again the use of the expression: 'éléments sonores'.
(20) P. Collaer, Darius Milhaud, tr./ed. J. Galante, p.103.

TECHNICAL OUTLINE

The purpose of the outline is to survey neo-Classical techniques and concepts, and introduce Analyses 6-8. Conversely, Analyses 6-8 exemplify the neo-Classical element of Milhaud's chamber music before 1930, with the selection of a song, a chamber opera and a sonatina underlining the variety of genre. There is common ground with chapters 3 and 4, though Milhaud's techniques are now more sophisticated. The main works used to illustrate the neo-Classical element are underlined in Figure 5.1, with parentheses distinguishing those mentioned in a different connection in chapters 3 or 4.

FIGURE 5.1 NEO-CLASSICAL WORKS

1917 (Première Petite Symphonie. Op.43.)
1918 (Quatrième Quatuor. Op.46. I, III)
Deuxième Petite Symphonie. Op. 49.
1921 Troisième Petite Symphonie. Op.71.
Quatrième Petite Symphonie: Dixtuor à Cordes. Op.74.
1922 Sixième Quatuor (G). Op.77.
1923 Quatre Poèmes de Catulle. Op.80. Voice and Violin.
1924 Les Malheurs d'Orphée. Op.85. Chamber Opera.
1925 Seizième Quatuor (Bb). Op.87.
1927 L'Enlèvement d'Europe. Op.94. 'Opéra-minute'.
Trois Caprices de Paganini. Op.97. Violin & Piano.
L'Abandon d'Ariane. Op.98. 'Opéra-minute'.
La Délivrance de Thésée. Op.99. 'Opéra-minute'.
Sonatine pour Clarinette et Piano. Op.100.

In the introductory discussion, principles of form and modality are followed by consideration of the Triad Motive in the chamber symphonies, localised bi-modal conflict, third relations, ostinato, pedal-points, 'pillar chords' and further types of polarity.

* * * * *

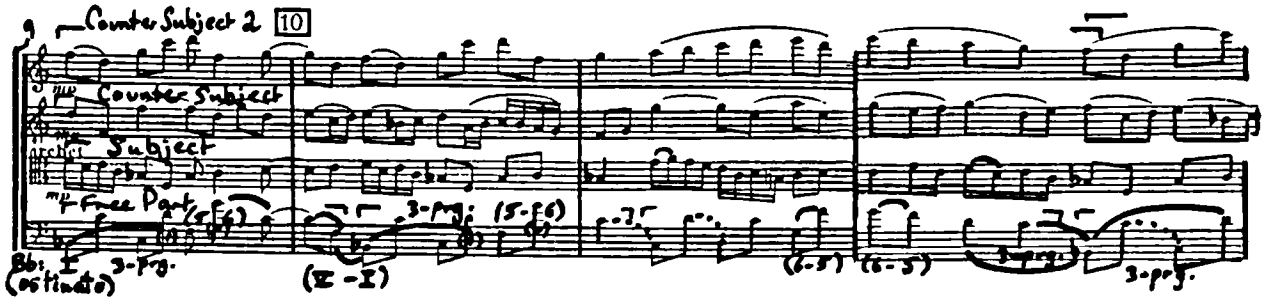
Ternary Form is still the most common outline, of which the 'Souple et Animé' of the sixth quartet (1922) is typical: A (1-14), B (18-34), A' (37-50, Coda (51-55).The short linking passages between contrasting sections (bars 15-17; 35-36)

and their incorporation within the coda are characteristic of increased refinements made to the basic ternary structure in Milhaud's mature neo-Classical pieces. The finale of the same quartet illustrates extended tri-partite form: AB/AB/A, with subtlety and variety of treatment for the repeated section A lying in the rhythmic parameter. The same AB/AB/A format is employed in the third movement of the seventh quartet (1925), as a type of sonata form: Exposition of A (1-18), B (19-24), Link (25-26), Development of A (27-33), B (40-46), Link (46-9), Recapitulation of A (50-58). In addition to two balancing subjects, for A and B, respectively, two important ostinati play an independent role. Milhaud also introduces a new idea into the development, and recapitulates this in the final section.

Fugue, with its special Bachian associations, holds particular fascination for Milhaud and is most significant in neo-Classical (more accurately neo-Baroque) contexts. He greatly admired the fugal masterpieces of J.S. Bach and sought to recreate the spirit of their technical craftsmanship (21). The best examples are the finales of the fourth chamber symphony, 'Etude', and the seventh quartet, 'Vif et Gai'. This latter movement maintains well the traditional balance of the formal sections: Exposition (1-16), Middle Section (23-37), Final Section (55-67) and Coda (67-70). In its formal and modal clarity, the movement looks forward to the neo-Classical concertos and sonatas beyond 1930. Subject and countersubject operate within a strong Lydian modality on Bb, with two ostinato parts on viola and 'cello (22), which become the second counter-subject and free-part. Bars 9-12 contain the first tutti, with all four ingredients combined, as in Figure 5.2, overleaf:

(21) For confirmation of J.S. Bach as a major influence, refer back to p.22, footnote 1 and p.155, footnote 10.
(22) This is detailed on pp.235-6.

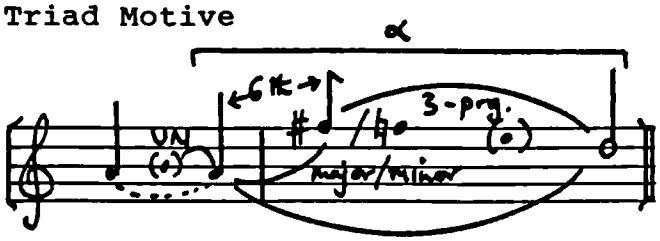
Figure 5.2 Seventh quartet, finale, bars 9-12.



As in those works where Exploration or Jazz-influence are predominant features, modality is still the underlying structural concept, now more sophisticated in its usage. The high profile of modality in neo-Classical contexts of the 1920s is demonstrated by a particular melodic hall-mark, the 'Triad Motive'. This simple motive, comprising an ascending sixth (major or minor), followed by a descending third interval (or third progression, major or minor), is hardly remarkable in itself (Figure 5.3), but what is striking is the frequency and variety of its usage. Its prominence serves to underline the relative diatonic emphasis of the neo-Classical works. This lyrical, motivic gesture seems to have become a subconscious, instinctive part of Milhaud's vocabulary.

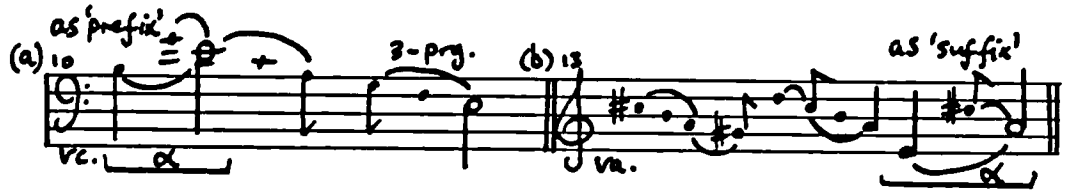
Despite its triadic simplicity, the motive has a clear identity: the pattern commonly occurs as the ascending-descending curve, rather than in inversion; with the stressed pitch usually the third scalic degree. Examples abound in the chamber symphonies (Figures 5.4-5.7).

Figure 5.3 Triad Motive



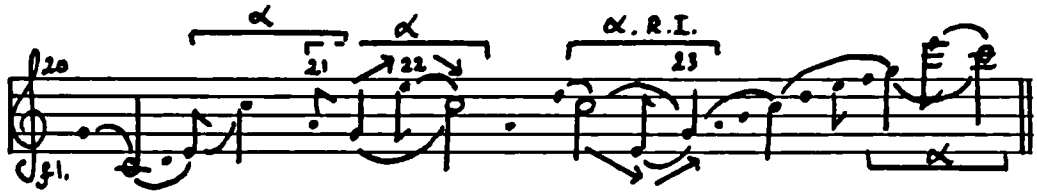
Sometimes the Triad Motive is part of a main theme, as in the first symphony ('Le Printemps'), I, piccolo and oboe in bars 20-23; strings in bar 23; piccolo and oboe in bars 26-27. A more embellished version occurs in the finale of the second symphony ('Pastorale'), in the flute's main theme: bars 6,10,14,18,22,26,30. At other times, the motive is part of a polyphonic accompaniment, or 'continuum'. There are various prefixes and suffixes, with optional decoration, with an example of the former in the third symphony ('Sérénade'), II: violin and bassoon in bars 3, 5, 15 and clarinet across bars 21-22. The motive also forms the start of a phrase in the finale of the third symphony: flute across bars 16-17; 25-27, within a Lydian mode on D. The fourth symphony (Dixtuor à Cordes), shows the motive melodically extended in the 'Ouverture': 'cello across bars 10-14, in a Phrygian mode on E [Figure 5.4(a)] and then later in violin between bars 26-9. More rarely the motive functions as a suffix to a phrase: in the fugal finale of the fourth symphony, as part of a new countersubject on A, first heard on viola at bars 13-14 [Figure 5.4(b)]; and in the opening 'Rude' of the fifth symphony: on clarinet across bars 7-8. Equally one could regard the whole theme in Figure 5.4(b) as generated from the Triad-Motive.

Figure 5.4
(a) 1st symphony,I, bb.10-14; (b) 4th symphony,III,bb.13-14



The Triad Motive may permeate many or all of the polyphonic strata, as in the first movement of the third symphony (23). The motive appears on bassoon across bars 1-2,4,9,12, through, with some exceptions, to bar 34. In the missing bars it is found transferred to other instruments: viola in bars 5-6, 13-15; double-bass in bars 9-10, 12-16; violin (with bassoon) in bars 17-18 and to flute and clarinet across bars 20-23. Conversely, statements may be isolated: single, sparse comments, such as the lone flute entry at bar 21, of the 'Calme', in the third symphony. They may be linked within a single line, with the end of one becoming the start of a second, as in the first movement of the third symphony: bars 20-23 on flute: (E,C,A) (G,E,C) [Figure 5.5].

Figure 5.5 3rd symphony, I, bars 20-23.



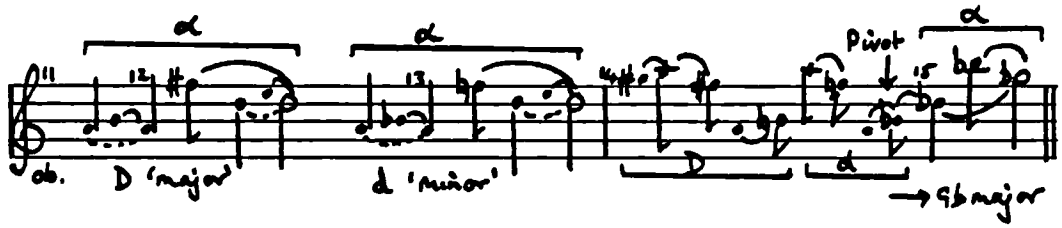
The next stage of development is the inter-linking of statements as a stretto. Occasionally the second statement is an inversion of the first, as in the first movement of the first symphony, flute in bars 14-15. More commonly the 6th-3rd interval pattern is reversed and the shape (ascent-descent) inverted, as in the second movement of the third symphony, bars 7-8: (D-6th-B-3rd-G) ascent-descent, (D-3rd-B-6th-G) descent-ascent. Similarly, in the second movement of the fifth symphony (bass clarinet of bars 24-25), the statements are also inter-linked: (Eb,C,Ab) ascent-descent, (C,Ab,F) descent-ascent. In the first movement of the sixth

(23) The resultant modality of this opening is discussed on pp. 232-4 (including Figure 5.8).

symphony (oboe of bars 22-23), the first statement in bar 22 is in partial retrograde as (F#-D-A), as opposed to the usual pitch order, which follows in bar 23: (A-F#-D). The ascent-descent is maintained. (If this shape and emphasis on the middle, highest pitch were not important to the Triad Motive, any 'broken triad' could be regarded as a variant.) The first statement ends on the fifth degree, decorated by upper and lower neighbour-notes, prior to forming the start of the next statement. The motivic figure can be presented in original form and retrograde inversion (Figure 5.5): in the flute line of bars 22-23, (G-6th-E-3rd-C) ascent-descent, is balanced by (C-6th-E-3rd-G) descent-ascent.

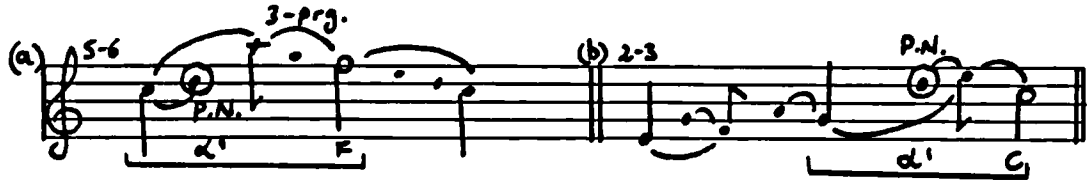
Modal mixture in the Triad Motive is illustrated by the 'Lent' of the fifth symphony (Figure 5.6), with the oboe of bars 11-2, 12-13, 15 and clarinet of bars 27-29 and 31. The fifth scalic degree is decorated by its upper neighbour-note. Jazz allusions are continued in the fascinating sixth symphony, for soprano, alto, tenor and bass, with oboe and 'cello.

Figure 5.6 5th symphony, II, bars 11-15. Modal mixture.



The initial sixth interval may be expanded to a minor seventh or octave, as in the final bar of the 'Souple et Vif' (II) of the sixth symphony. Alternatively, the sixth may be partially filled-in, by inclusion of a passing-note, either a tone above the first pitch or a tone below the second, as in other instances in the sixth symphony, [Figure 5.7(a) and (b), overleaf]:

Figure 5.7
(a) 6th symphony,II, bb.5-6; (b) 6th symphony,I, bb.2-3.



The Triad Motive can be traced back to the first movement of the third quartet (bar 15) and the opening of the fourth. The fifth and seventh songs of the Catalogue de Fleurs (1920) refer to it, as does the opening movement of the sixth quartet. The motive plays an important role in the third of Quatre Poèmes (1923): (F#,D#,B) in the central section (bars 11-16). Most compositions of the 1920s, other than the Jazz-influenced repertory, share the trait. Thus, general principles of motivic process in Milhaud's neo-Classicism are demonstrated by the Triad Motive in the chamber symphonies.

Neo-Classical modality also includes further occurrences of the Altered Mixolydian, as in the last song of Quatre Poèmes, the finale of the sixth quartet and second movement of the seventh quartet. Curiously this mode is always encountered with its final on G, in both exploratory and neo-Classical contexts. The main chordal sound associated with the mode is (G,B,D,Eb), i.e. set (4-19), more commonly expressed as an augmented, seventh chord, with Eb in the bass: (Eb,G,B,D). The finale of the sixth quartet particularly demonstrates the chordal properties of Altered Mixolydian modality. The 'tonic' harmony: (G,Eb,G,A,D) is stated with the (B) sounded immediately afterwards (24).

(24) This example is referred to again concerning 'pillar chords', p.236, and is quoted in Figure 5.10, p.237.

This chord again embodies polarity between centres a third apart. In other words, Straus might view this construct as a tonal axis, of competing yet balanced triads: (Eb,G,B); (G,B,D).

In addition to the Altered Mixolydian, more traditional modes are found in plagal and authentic forms. The Lydian on F and C is particularly favoured in Milhaud's neo-Classicism, shown in the finale of the clarinet sonatina (Analysis 8). Localised use of Dorian and Phrygian is quite common, with occasional octatonic and pentatonic collections, the latter used in a process of modal complementation in scene V of L'Abandon d'Ariane (Analysis 7) (25). There is also limited use of a Hexatonic scale on G: (G,A,B,C,D,E), omitting reference to a 'leading-note' (Analysis 6). Usually, a single large-scale modality operating at background level tends to be of Ionian or Lydian patterning.

* * * * *

Third relations are most prominent in the neo-Classical domain, with their importance as a generative melodic force already demonstrated by the Triad Motive. Milhaud's melodies usually involve a simple triadic framework, with integral third relations. These may also operate in contrapuntal combination, as in the 'Lent' of the sixth quartet, where, at foreground level, third intervals are exchanged between violin I and 'cello at bar 14: (E,C),(D#-B). At background level, the movement, based on B, features strong emphasis on the third degree: D# (Eb) in the 'cello. A more notable enharmonic pivot operates at the third degree in the third of Quatre Poèmes, also centred on B. The prominent D# of bars 11 and 14 is converted to Eb at bars 19, 21-22 and back

(25) Refer to p.264.

to D# at bar 23. Melodic third progressions are evident in the first bar: (B,C#,D#). The fourth song, 'Ma chérie, en presence de son mari', commences with a derived, minor third figure: (B,C,D), then subjected to intervallic extension. In Jeremy Drake's parlance,the (B,C#,D#):(B,C,D) transformation demonstrates 'inflectional polyvalency' (26). In the last two vocal bars, this is modified, emphatically, by rhythmic augmentation, back to a major third span: (Bb,C,D).

Third relations can be incorporated in the harmonic perspective as localised bi-modality. The opening of the sixth quartet involves ambiguity between centres on g (predominant) and Eb (subsidiary). In bars 1-7, violin II and 'cello assert a Hexatonic mode on G: (G,A,B,C,D,E) (27); whilst the viola subscribes to the harmonic minor and Aeolian on G: (G,A,Bb,C,D,Eb,F/F#,G). Thus there is innate modal conflict even before the introduction of a 'pentatonic' mode on Eb, by violin I at the end of bar 6: (Eb,F,G,Ab,Bb). This is not the true pentatonic, but simply a five-note segment, possibly of a larger 'major-third' mode (28). The first movement of the clarinet sonatina (1927) also involves third relations, which may be a source of polarity, as discussed in Analysis 8. Thus, third relations may exist on the large-scale across a major section of a work (simultaneously, as bi-modality); between sections of a movement (successively), and between movements of a work. Large-scale third relations are often related to ternary form. A large-scale third progression across a movement is seen in the 'Lent' of the seventh quartet, moving from g to Eb and involving two ostinato patterns based simultaneously on g and Eb. A further third connection is that the first subject of the 'development' (bar 27) is heard a major third

(26) J. Drake, O.D.M., p.206.
(27) This is another instance of the Hexatonic on G, also mentioned on pp.230, 241-2.
(28) For explanation, refer back to pp.89, 201.

higher than in the exposition. Third relations across a work are demonstrable through several neo-Classical pieces, the overall progression of the sixth quartet being: I- G, II - b, III - G; whilst that of the seventh quartet is: I- Bb, II - G (/Eb), III - g - Eb, IV - Bb. The clarinet sonatina has a similar scheme: I - b, II - Ab/g#, III - C.

The third scalic degree has a high profile. However this can make moments where the pitch is omitted even more striking, as at the end of Quatre Poèmes. The main mode is the Altered Mixolydian on G, with its third degree, B, plus some mixture at the sixth: Eb/E. In the coda, bars 22-26, B natural is substituted by Bb - in a highly stylised Blues procedure, to accompany the text: 'c'est à dire brulante, embrasée'. After this decisive modification, the final two bars are delightfully ambiguous. In bar 25, B natural returns in a reference to the violin's opening accompaniment idea, but in the final bar the third is omitted, concluding with a chord of three 'open strings': (G,D,A,G).

* * * * *

In the neo-Classical domain, there is some superficial persistence of what Milhaud would term 'poly-tonality', (preferably poly-modality). However, he is now more concerned to elaborate fewer tonalities convincingly, than with continuing his earlier attempts at sustaining six simultaneous tonalities, (e.g. Les Choéphores and Les Euménides), which lost the sense of directed motion. The first movement of the third chamber symphony (1921) is a useful example because one may begin with Milhaud's interpretation of 'poly-tonality'. In 'Polytonalité et Atonalité', Milhaud views an early passage of the first movement as operating in six keys simultaneously (29). My

(29) Refer back to Chapter 2, p.46 (including footnote 12).

assertion is that such 'poly-tonality', though apparent to the eye, would be unlikely to be so perceived by the listener and that, theoretically, the principles of fundamental bass would tend to produce a single modality on Bb, shown in Figure 5.8, overleaf (30). This small-scale interpretation of Bb across bars 9-12, is third-related to the movement as a whole, based on D. The D pitch is a pivot between the 'tonic' of D 'major' and third of Bb 'major'.

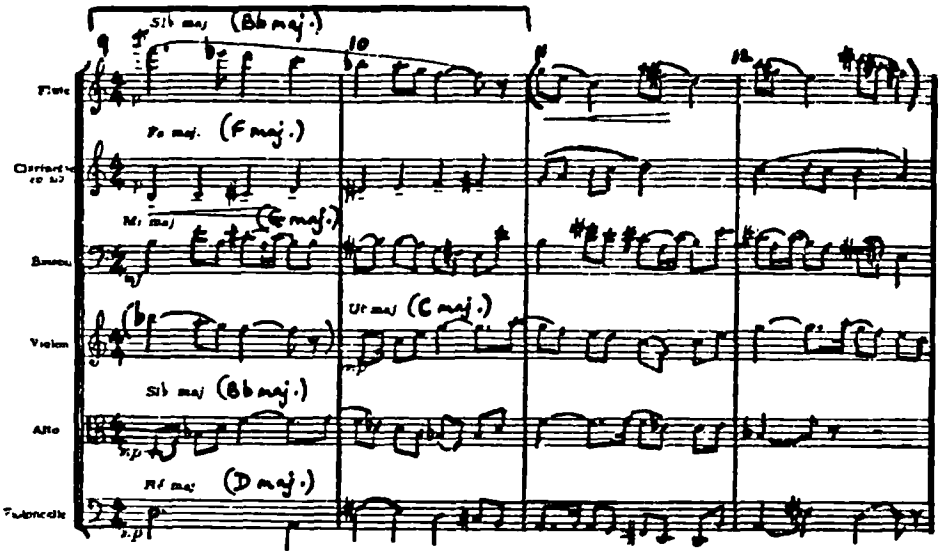
Three movements from the sixth and seventh quartets have already been mentioned as concerned with bi-modal balance (and polarity) at the third scalic degree. Thus, bi-modality and third relations can be closely related. A final type of bi-modal polarity can result from modal complementation, as in scene V of L'Abandon d'Ariane (Analysis 7). Pitches are semitonally opposed between bass and upper voices in a similar, though more sophisticated, manner to that used in the exploratory works up to 1922.

By contrast, some neo-Classical pieces are largely diatonic (i.e. utilising pitch-groupings of 'white-note' modes) and enjoy only mild dissonance, e.g. Quatre Poèmes and the seventh quartet. In these contexts, one can successfully use Hindemith's 'Tension Theory' to elucidate the treatment and role of dissonance. The first of the Quatre Poèmes particularly suits this approach (Analysis 6). However, works of the later 1920s (especially 1927) give a higher profile to strong dissonance, as part of the increased, 'dramatic' effect acquired through opera. This heightened dissonance is evident in L'Abandon d'Ariane (Analysis 7) and the clarinet sonatina (Analysis 8). On this topic, reference can be made to the (4-7) set, discussed in Chapter 3, as a defiant, semitonal gesture at foreground level (31).

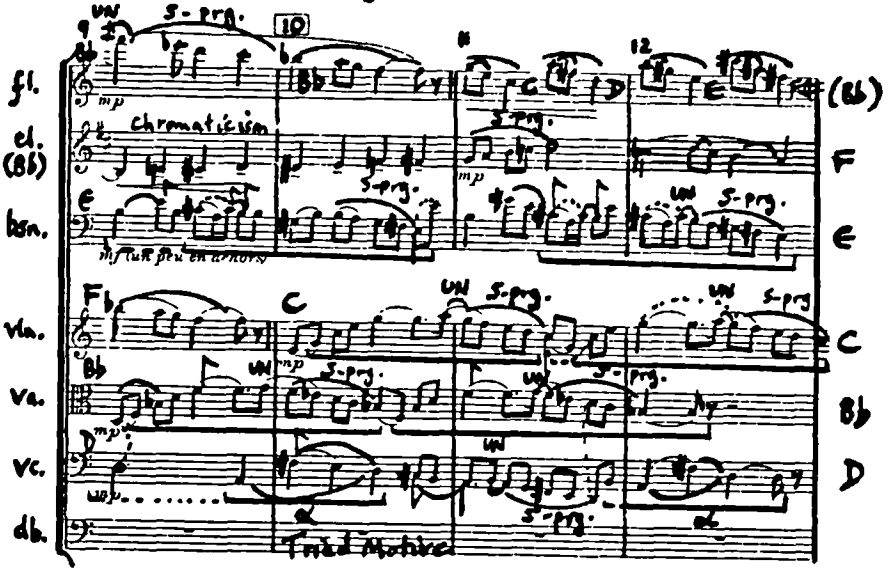
(30) Hence, the stipulation of 'localised, or surface-level, bi-modality' in Chapter 2 of this dissertation, p.83ff.
(31) See pp.106, 137 ff.

Figure 5.8 Third chamber symphony, I, bars 9-12.

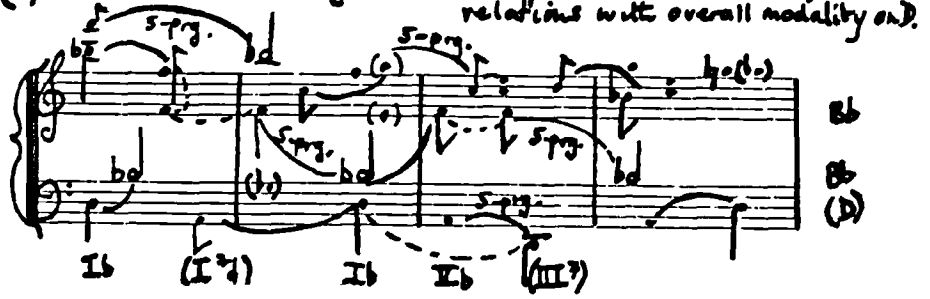
(a) Milhaud's poly-tonal interpretation in 'Polytonalité et Atonalité':



(b) Development of poly-tonal interpretation

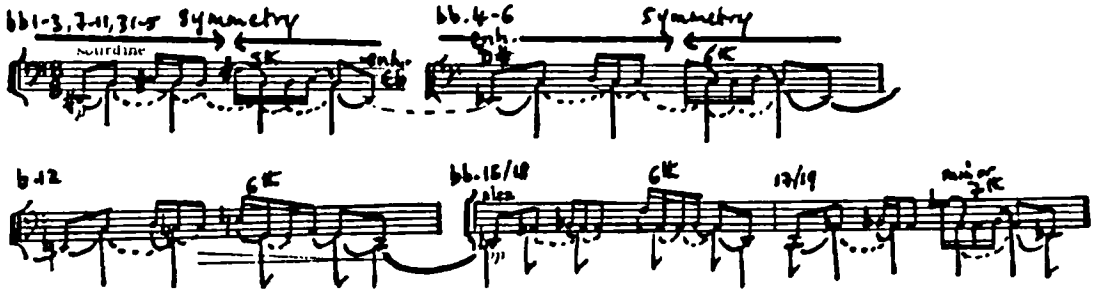


(c) Reduction to single modality on Bb (localised) - third relations with overall modality on D.



There are several means of extending modal structures, including literal and embellished repetition, melodic and harmonic sequence, illustrated in Analysis 8. Ostinato can be a means of pitch prolongation, as a neo-Classical equivalent of 'Alberti bass'. Examples abound, as in the 'Lent' of the sixth quartet, where a one-bar 'basso ostinato' undergoes various modifications (Figure 5.9). The basic form is established across bars 1-3, with enharmonic change (D#-Eb) and intervallic expansion (perfect fifth to major sixth) across bars 4-6. The original form returns across bars 7-11, after which D# is raised to E, for a one-bar rendition on C. The ostinato returns on Db between bars 16-19, with further intervallic expansion to a minor seventh in bars 17 and 19. The original ostinato does not return until the coda at bar 31, by means of enharmonic change from Eb to D#. Four statements on 'cello are followed by one on viola, at bar 35.

Figure 5.9 Sixth quartet, 'Lent'.



Two basso ostinato patterns operate in the 'Lent' of the seventh quartet: the first, a chromatic encirclement around G: (Ab,G,F#,G); the second, asserting the third relation of Eb, as the bass-note of a second inversion of Ab (Lydian tendency). Eb is prolonged, with a whole-tone fragment: (Ab,Bb,C,D) above. Another instance occurs in the finale,

where an ostinato consisting of typically displaced octaves, functions as a small-scale ground-bass, with 'cello supported by viola. The material (as shown in Figure 5.2) is repeated every four bars, before the viola assumes the main subject at bar 9 and the 'cello at bar 12. The ostinato continues in the upper voices as the fugal 'free-part'.

The concept of 'pillar chords', articulating the sections and thereby supporting the overall architecture, also has application within Milhaud's neo-Classical repertory. A lucid, small-scale example is the opening of the finale of the sixth quartet, mentioned above (32). Bars 1-12 (shown in Figure 5.10, overleaf) employ four, identical quaver-length chords: (G,Eb,G,A,D), which punctuate the texture every four bars and produce a tonic pedal.

* * * * *

In addition to bi-modal polarities of pitch, there are polarities of texture and instrumentation. The idea of concerto grosso in the chamber symphonies produces the concertino versus ripieno, or 'cantus' versus 'continuum'. A clear example is found in the second movement of the fifth symphony (other aspects of which were discussed in Analysis 3), where bass clarinet, followed by flute and then oboe assume the solo role, against a semitonal 'choiring' of firstly upper woodwind and then the lower instruments.

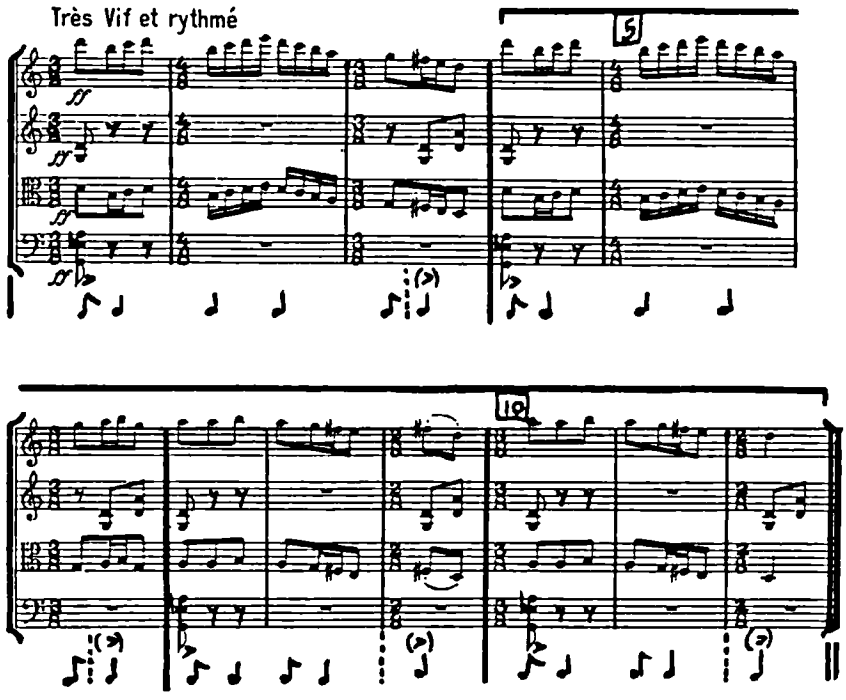
* * * * *

Some neo-Classical pieces show development of earlier metric/rhythmic techniques. The 'Lent' of the seventh quartet interpolates 7/8 bars within its 6/8 metre, in a similar though more sophisticated fashion to that used in the third quartet (1916). The finale of the sixth quartet

(32) Refer back to p.229 on the Altered Mixolydian mode.

has a nine-bar metrical unit, consisting of a mixture of 3/8 and 4/8, with occasional interpolation of 2/8: bars 4-12, 13-21, with a partial unit: bars 22-25. At bar 26, this particular pattern is broken, after which a second unit commences, of eleven bars' duration, stated twice, employing some 5/8 metre but no 2/8. There are up to three bars in one metre before a change is made. The effect is to parody a dance, with extra steps incorporated whilst others are absent. The movement has a Stravinskian flavour, brought about by metrical choice, textural clarity and order, as well as by simple melodic shapes and octave doublings. The effect is heightened by rhythmic patterns within a particular metre, such as quaver/two semiquavers/quaver in 3/8 metre. Sometimes rhythms are set up in metrical opposition, as another kind of polarity, illustrated in Figure 5.10. (This movement foreshadows the third, 'Léger et cinglant', in the seventeenth quartet of 1950.) Another interesting example of neo-Classical metric/rhythmic treatment, similar to that used by Stravinsky, is found in the final scene of L'Abandon d'Ariane (Analysis 7).

Figure 5.10 Sixth quartet, finale.



ANALYSIS 6

MODALITY AND TENSION THEORY IN 'LA FEMME QUE J'AIME', FROM QUATRE POEMES DE CATULLE OP.80 (1923)

PRELIMINARIES

Milhaud completed his Quatre Poèmes de Catulle for voice and violin on 4th August 1923, in Aix-en-Provence. The poems were written by the celebrated lyric poet of ancient Rome, Gaius Valerius Catullus (84-54 B.C.), and were later adapted and translated into French, by a linguist whose identity is unknown. The Quatre Poèmes were first performed in Paris in October 1923, sung by V. Janacopoulos with the violinist, Yves Astruc. These settings are true miniatures and have a total duration of just over three minutes. The opening song, 'La femme que j'aime', is extraordinary for its modal simplicity and brevity. It is a mere eleven bars in duration and represents the purest neo-Classicism that Milhaud achieved in the 1920s. The analytical means employed are modal partitioning, adapted from van den Toorn, post-Schenkerian voice-leading and evaluation of the Hindemith/ Neuymeyer concept of tension-theory.

ANALYSIS

Since the inspiration for the songs stems from the text, it is appropriate to begin by discussing the setting of the poem, which is metrically free, though clearly divisible into two halves:

> La femme que j'aime dit
> qu'elle ne voudrait pas s'unir à un autre que moi.

Elle le dit;
mais ce qu'une femme dit à un amant bien épris,
il faut l'écrire sur le vent et sur l'onde rapide. (33)

The layout of this French version of the Catullus text has been surmised from its punctuation and appearance in Milhaud's score. An English translation of the original Latin text has also been consulted (34). In his setting of the text, Milhaud adopts a lilting 6/8 metre with anacrusis. Rhythmic treatment is simple and uncluttered, allowing clear enunciation of the words. The most unusual sub-division is into four equal dotted semiquavers (bars 8-9). Stressing is sometimes artifical and 'pointed', for example, the placing of the word 'dit' on strong beats: bar 2, beat 1; bar 6, beat 2; bar 8, beat 1. This helps to emphasise the cynicism of meaning, implying that: she 'says' this, but she does not really mean it. The setting also create three 'peaks', in terms of the vocal melodic contour and the 'weak-strong' metric placement across the bar-line: 's'unir' (bars 3-4),'épris' bars (8-9) and 'rapide' (final two bars). The divsion of the poem into balancing halves (between semblance and actuality) is carefully preserved in Milhaud's setting, by means of an imperfect-type cadence, together with

(33) My translation:
'The woman that I love says
she would not want to unite with anyone but me.
She says this;
but what a woman says to her truly smitten lover,
one must write on the wind and on the speeding wave.'

(34) 'Lesbia says she'd rather marry me
than anyone,
though Jupiter himself came asking
or so she says,
but what a woman tells her lover in desire
should be written out on air and running water.'

Poem 70, from The Poems of Catullus, tr. Peter Whigham, London, (Penguin Classics), 1966, p.182. 'Lesbia' is thought to refer to the notorious Clodia Metelli, who was reputed to have inumerable lovers.

punctuating rests, at bar 5. The simple form of the song reflects that of the poem, shown in Figure 5.12.

The three analytical examples, (Exs.5.1-5.3), should be regarded compositely. They progress from a general modal perspective, through a more rigorous post-tonal voice-leading analysis, to an experimental exercise with tension theory. Ex.5.1 examines the nature of the modality and partitioning and shows Milhaud at his most diatonic within an Ionian-type mode on G (35). Set-theory is used simply as a supplementary means of identifying the motivic units. I am not suggesting that the music is other than modally conceived. In making association between motivic units and 'significant (structural) sets', I am endorsing Neumeyer's view, as cited in Chapter 2 (36).

FIGURE 5.12 FORMAL OUTLINE: 'LA FEMME QUE J'AIME'

INCIPIENT TERNARY FORM: ABA'

SECTION A:	Bar 1:	Introduction on violin, with 'tonic' pedal on G
	Bars 1-5:	First sentence of poem.
	Bar 5:	Interlude on violin, marking imperfect cadence.
SECTION B:	Bar 6:	'Elle le dit;' Opening clause of second sentence, 'dit' balancing occurrence in bar 2.
	Bars 7-9:	Continuation of second sentence.
SECTION A':	Bars 9-11:	Return of opening violin figure, decorated vocal line fom bar 2 (& opening modality). Conclusion of second sentence. Cadential ambiguity.

(35) The diatonicism is striking since Quatre Poèmes was written in early August 1923, contemporarily with La Création du Monde, which was first produced in late October. Admittedly, the other songs (especially IV) make more use of the Blues scale.

(36) D. Neumeyer, The Music of Paul Hindemith, p.125.

The shapes of vocal and accompanying lines tend to be formed of step-wise modal ascents and descents, gradually revealing the nature of the mode on G. The violin pitches of bar 1 suggest the Pentatonic Collection 1:(G,A,B,D,E),(0,2,4,7,9), with a distinction between lower and upper segments, sounded respectively on the first and second beats. In bar 2, the violin has a second pentatonic grouping: (G,A,C,D,F) with introduction of C natural, though maintaining the lower and upper segments. The voice above (bars 2-3) embraces a Hexatonic mode on G: (E,D,C,B,A,G) (0,2,4,5,7,9). Thus the terms of reference are increased from pentatonic to hexatonic and so on. The introduction of F natural suggests a resultant modality of Mixolydian on G, indicated below the stave in Ex.5.1. The raised seventh only emerges in the vocal line of bar 3, thus 'focusing' the modal identity of Ionian on G, whilst the violin maintains its pentatonicism. The first instance of contrary motion in the second half of bar 3 is noteworthy as an expression of modal development in this tiny piece. In bar 4, modal identity is clarified further by the introduction of F♯ in vocal and violin lines. Both use the Ionian on G separately and compositely, though the violin part still maintains the distinction between lower and upper segments, with the tetrachord: (C,B,A,G), followed by the trichord: (F♯,E,D).

In traditional terms, bars 4-5 form an imperfect cadence, emphasised by the introduction of a rest into the vocal line. The violin follows through with a small 'pentatonic' segment on D (A,G,F♯,E,D), simply a large-scale chord V within the Ionian on G. However, the crescendo to G in the 'interlude' does provide a rather surprisingly emphatic return to I. In bar 6, the voice re-enters on the G pitch (heard as a dissonance), using the upper tetrachord: (G,F♯,E,D), (0,1,3,5), which is balanced by the violin pitches across bars 6-7: (D,C,B,A,G). Bar 7 contains the second instance of contrary motion, as the voice ascends

scalically within the Ionian on G: compass (E-D), using a pattern repeated sequentially in bars 8-9: compass (F#-E). Below, the violin maintains the Ionian modality with a 'tonic' double pedal across bars 7-8. The violin pitches of bar 8 again feature a division into lower and upper segments. The second beat may also be viewed as an imitation of the vocal line, with the scalic ascent: (D-C), suggesting localised Mixolydian on D. Thus there is motivic/modal correspondence between lines.

Bar 1-3 were the result of a process which worked from modal ambiguity to clarity: from pentatonic, through hexatonic and Mixolydian, to Ionian. The opposite process operates across bars 8-11, as the modal identity 'fades', thus complementing the earlier procedure. Bar 8 is the last to feature F# (in both parts), after which F natural returns in the vocal part of bar 9, with the Pentatonic Collection 1 in the violin across bars 9-10. The resultant collection for bar 9 is the Mixolydian on G, as in bar 2. The terms of pitch reference are reduced further to hexatonic/pentatonic collections across bars 10-11, where the voice employs (G,A,B,C,D,E), as across bars 1-3, against the violin's: (B,A,G;E,D), as in bar 1. The upper segment (E,D) is stressed by its positioning on the first beat of bar 10 and by repetition.

Motivically, the violin line has the stronger identity, opening with an appoggiatura figure which occurs in embellished (B-G-A) and simple (E-D) forms.The appoggiaturas of bar 1 are used sequentially in bar 2: (A-F-G),(D-C), with a similar procedure operating across bars 3-4. The original pitches return again in the final three bars, repeating the (E-D) motion. The voice supports the sixth degree in bar 11, with the violin left sustaining the fifth degree. Thus the first song ends with an appropriate sense of expectancy. Overall pitch ranges are a perfect 11th (d'-g") for voice; and two octaves and a tone (g-a") for violin, (-excluding harmonics).

Ex.5.2 views the song from perhaps the most important single perspective, that of voice-leading, though no graph should be seen in isolation from another. The voice-leading interpretation examines further the functioning of the modality. Standard notation is employed for chords, (often with added 6ths), neighbour-notes, third, fifth progressions and registral transfer. A 'fundamental line' has tentatively been suggested, though it does not conform to a Schenkerian model. Nevertheless, strong step-wise progressions, in descent to the 'tonic' (or modal 'final'), are noticeable, in this song and the three that follow (37).

In terms of 'fundamental line' the descent would operate from $\hat{3}$ or $\hat{5}$. $\hat{5}$, i.e. D, seems the preferable choice, reached by arpeggiation from B (bar 1). This pitch d'' is frequently reinforced by its upper neighbour-note e'' (38), and also proves of central importance at the close of the song. The supporting 'tonic' harmony is indisputable. The most feasible point for any descent is across bars 4-5, where there is a convincing dominant harmony (on d') to support the second scalic degree: a' (39). However, in traditional terms, this is very early for such a descent, although there is an effective 'mirrored' descent in bar 10 (as well as the 'anticipated' descent back at bar 2). A second unorthodox feature is that vocal descent and supporting harmony are staggered, though this might be explained as a type of unfolding. A third problem is the short length of any tonic (g') in the upper voice, either in bar 7, or in

(37) The fourth song is also centred on G (featuring chord I with added sixth) and thus offers an element of unity to Quatre Poèmes.
(38) In fact, the weighting given to the sixth scalic degree is more significant than the upper neighbour-note interpretation tends to suggest. Thus there are limitations in traditional voice-leading.
(39) This interpretation supports the literary structure of the hiatus between balancing segments, discussed earlier on pp.239-240 (and on p.241).

the 'mirrored' descent of bar 10. The ending too is unconventional from a voice-leading perspective, the modality of G rather undermined by the emphasis on D and the avoidance of the 'tonic' or 'final'. Having said this, chord I is partially implied by the vocal pitch of G (g') in bar 10, because the violin sounds the (E-D) progression in harmonics, two octaves above its true register.

* * * * *

'La femme que j'aime' is the most homophonically constructed and simplest of Quatre Poèmes, thus the experimental inclusion of Hindemith's 'Tension Theory' proves productive in Ex.5.3. I have maintained Hindemith's symbols of shaded crescendo and diminuendo marks to indicate corresponding increases and reductions in harmonic tension. The point at which the diminuendo tails off to nothing indicates a state of pure consonance. In bar 1 there is a gradual increase in tension to the mid-point of the bar. The tension exists against the bass 'tonic' pedal, from a major 10th (G-B), through a perfect 8ve (G-G), to a major 9th (G-A). The second half of the bar balances this, at pitches a fifth higher, with a second major 9th (D-E), resolving back to a perfect 8ve, on the fifth scalic degree: (D-D). Interpretation is consistent with the definition of 'consonance' given above, and overleaf.

One function of Ex.5.3 is to investigate the incidence of types of dissonance, with the major 9th/2nd (0,2) proving most common, followed by the perfect 4th/11th (0,5) (40). Next in incidence is the minor 7th (0,10), followed by the 'compound' (i.e. trichordal) dissonance of major 9th, plus minor 7th (0,2,10). It is interesting how rarely the tritone is used. The incidences are listed in Figure 5.13, overleaf.

(40) In contrapuntal terms, the perfect fourth is always regarded as a dissonance, or unstable interval, which seeks resolution to a major, or minor, third.

FIGURE 5.13: INCIDENCE OF PARTICULAR DISSONANCES

Simple dissonances		Compound dissonances
Major 9th	X 12	Major 9th/Minor 7th X 3
Major 2nd	X 3	
Perfect 4th	X 7	Major 9th/Major 7th X 1
Perfect 11th	X 2	
Minor 7th	X 5	Minor 7th/Major 2nd X 1
Major 7th	X 2	Augmented 4th/Major 2nd X 1
Diminished 5th	X 1	

The (0,2) major 2nd dissonances: (E,D) mentioned above, provide a symmetry and unity of syntax by opening and closing the song. The harsher minor 2nd has no place, partly because chromaticism is atypically unimportant (41). The dissonances that occur are far less 'biting' than in earlier compositions and the 'norm' is consonant (42).

The main concern of Ex.5.3 is with resultant patterning of dissonance and consonance. There are several 'strategically placed' consonances, which assist structural articulation. These often mark the starts and closes of phrases. It is significant that the first sounds of bars 1 and 3 are identical consonances. The first 'strategically placed' dissonance is that at the end of bar 2, which increases the momentum into the start of bar 3, where the first phrase is sub-divided after the word 'dit'. The consonances on the second beats of bars 5 and 6, both preceded by dissonances on the first beats, have a sequential effect, the end of bar 5 marking the half-way point of the verse.

(41) The only chromaticism (as a hint of Blues 7th) is the the lowered 7th: F (occurring three times), in relation to the raised 7th: F# (occurring eight times).
(42) 'Consonance' means strictly intervals of 3rd, 5th, 6th, 8ve; together with root, or first inversion triads.

In the second half, the consonances on the first beat of bar 9 are strategically placed,leading to three successive dissonances on the second beat. The mid-point of the bar marks the sub-division of the phrase; balanced in bar 11 by the final 'consonance', a single pitch on D, after the last (dissonant) appoggiatura (E-D). On the smaller scale, the pattern: (consonance/dissonance - dissonance/consonance) occurs five times: in bars 1, 3, 3-4, 4-5 and 11. This is a truly neo-Classical treatment of 'prepared' dissonance, which is then 'resolved'. Another common pattern is simply: 'dissonance/consonance', stated without preparation and employed in bars 2, 6, 7, 8 and 9-10. The other frequent pattern is a passing dissonance, denoted by a 'diamond', as used in the moving line in bars 7, 9 and 10.

CONCLUSION

Thus it is clear that voice-leading alone cannot offer a convincing interpretation, even of Milhaud's most purely modal piece of the 1920s. The most interesting aspect of the piece is its logical increase and then reduction in the terms of modal reference, across such a short time span. There is justification in incorporating set-theory, mainly in attempting to classify motivic units. In such a simple two/three-voiced structure, the Hindemith/ Neumeyer approach produces clear patterning and thus added insight into the song. For instance, in bars 1-4, tension is clearly conceived in terms of the harmonic rhythm of dotted crotchets. However, in more complex post-tonal contexts, 'tension theory' would inevitably become ill-defined and would serve only as a very general guideline.

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ANALYSIS 7

L'ABANDON D'ARIANE AS A PRODUCT OF NEO-CLASSICISM

PRELIMINARIES

L'Abandon d'Ariane Op.98, is the second of a trilogy of 'opéras-minute', so-called, not only because of their short durations, but also because of their relatively small instrumental and vocal forces and methods of construction. In the words of Collaer/Galante: 'the quantity of material is replaced by the quality of inventiveness' (43). The function of the 'choruses' is to comment on the action, in the manner of classical Greek tragedy. Staging is difficult, since it is not appropriate for scenery and acting to mimic the conventions of grand opera. There must be the same economy and concentration of effect as in the composition itself. Thus, in the midst of this dramatic context, we are looking towards some refined, neo-Classical ideal.

The compositional approach of the 'opéras-minute' first emerged in Les Malheurs d'Orphée (1925) and is similar to Hindemith's in Hin und zurück. Indeed, it was Hindemith who invited Milhaud to take part in the festival at Baden-Baden, where Hin und zurück and L'Enlèvement were first performed in the same programme. Milhaud explains the background to these operas in Ma Vie Heureuse (44): he had originally composed L'Enlèvement, (9 minutes' duration), to be produced in conjunction with Toch's Die Prinzessin auf der Erbst (60 minutes), Weill's Mahagonny (30 minutes) and Hindemith's Hin und zurück (14 minutes). However, the managing director of Universal Edition did not consider publication of such a work a viable proposition and suggested the

(43) P. Collaer, tr./ed. J. Galante, Darius Milhaud, 1988, p.103.
(44) D. Milhaud, M.V.H., Chapter 26, pp.167-76.

trilogy. Thus Milhaud came to compose L'Abandon d'Ariane: 'opéra-minute en cinq scenes', in Aix-en-Provence in early August of 1927. He dedicated the ten minute opera to the librettist Henri Hoppenot (H.H.H). The work was first performed as part of the triptych, in April 1928, at the theatre in Wiesbaden, conducted by J. Rosenstock.

One wonders if in selecting the myth of Ariadne on Naxos, Milhaud was inspired by Richard Strauss's one-act opera, composed for performance after Molière's comedy Le Bourgeois Gentilhomme. Strauss's masterpiece was produced in Stuttgart (1912), London (1913) and then, in revised format, in Vienna (1916) and London (1924). It is difficult to imagine Milhaud, well-read and travelled as he was, being unfamiliar with the work. Might he also have been aware of Stravinsky's shorter dramatic works, e.g. Renard, or Satie's Socrate ?

The Greek legendary subject matter of the 'opéras-minute' is certainly an appropriate choice for the neo-Classicist. Ariadne, daughter of King Minos of Crete, has been abandoned by Theseus on the Isle of Naxos with her sister Phaedra, despite having helped Theseus solve the mystery of the Labyrinth on Crete. Ariadne, heart-broken, is found and consoled by Dionysus, the son of Zeus, who is at first disguised as an old man. Theseus later returns, in an inebriated state, and takes Phaedra back with him to Athens, whilst Ariadne eventually finds happiness in marrying Dionysus. Ariadne's tomb is reputedly found on the Isle of Naxos, where two festivals of commemoration are still held: the first mournful, bewailing Ariadne's death; the second joyous, celebrating her marriage to Dionysus. Although neither event occurs in Milhaud's opera, L'Abandon maintains the conventional, emotional antithesis. The musical language is largely diatonic, with chromaticism reserved for heightening passages of increased emotion.

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L'Abandon d'Ariane is selected for analysis since it illustrates well Milhaud's increased interest in neo-Classical style and practice in the late 1920s, showing how certain features of the early chromatic and Jazz phases have been preserved and incorporated. Another reason behind the selection is that comparison may be made with Jeremy Drake's essay on the neo-Classical operas (45). Although the work is undoubtedly modal, pitch-class set notation is used as a supplementary analytical tool, in order to draw attention to features that might be overlooked in the voice-leading and functional harmonic analyses. It should be noted that although the musical examples refer to the vocal score, the orchestral score (available only on hire) has been used for study purposes, as the following discussion makes clear.

The opera requires four vocal soloists: Ariane (soprano), Phaedra (soprano), Theseus (tenor), Dionysus (baritone) and two 'choruses'. The chorus of three shipwrecked sailors consists of solo tenor, baritone and bass; whilst the chorus of three revelling gipsies consists of solo soprano, mezzo and contralto. The instrumental requirements are: 2 flutes (1 doubling on piccolo), oboe, 2 clarinets in Bb, bassoon; horn in F, 2 trumpets in C; percussion; 2 violins, viola,'cello and double-bass (5-string). The percussion section includes timpani (tuned mainly to C and E, but also to Bb,Db and F), snare, tenor and bass drums, cymbals and tam-tam.

The general principles of the orchestration include much doubling of melodic lines: flute and violin I, oboe and violin II,'cello, bassoon and double-bass (often pizzicato). More dramatically, Milhaud uses doublings, at four octave's distance, between piccolo and bassoon, e.g. bar 8 onwards,

(45) J. Drake, O.D.M., Chapter 9, 'The neo-classical operas II: Essay in stylistic analysis'.

and the final 'Vif' (46). Sometimes instrumental sections are used antiphonally, especially woodwind and brass contrasting with strings. Equally, antiphonal effects are obtained within sections, with lines alternating between flute and oboe, or between violins. In bars 1-7, the melodic material 'descends' part-way down the score, in accordance with two-bar phrases: flute and oboe, transferred to oboe and clarinet, and then to horn and trumpets. Thus Milhaud uses clear 'blocks' of sound. Particular timbral effects include the muting of horn and trumpets, and use of pizzicato, harmonics and trills on strings. Such effects, as well as the positioning of 'tutti' or sparse orchestrations, and the percussive punctuation of timpani or cymbals, may help in putting across the pitch-structure. Timbral distinctions may clarify a passage of bi-modality, whilst percussive additions may emphasise an important pitch.

The vocal score is generally a faithful reflection of the full score, though inevitably some doublings are unmarked. Pitches in the treble are sometimes written an octave lower than in the full score; whilst, more rarely, those in the bass are written an octave higher, though not affecting the functioning of the bass-line. Occasionally, pitches considered insignificant are omitted, such as the fifth of a chord, or other types of textural thickening. These have been included as annotations on the examples from the vocal score and in the analytical examples.

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(46) This was discussed as a typical feature of earlier pieces, e.g. 'La Lieuse' from Machines Agricoles, p.126.

ANALYSIS

Before discussing each scene in turn, it is appropriate to give a formal outline of the work. The attention paid to the recapitulation of material produces, at background level, an arch-structure, illustrated in Figure 5.14. This arch-structure has a broadly triadic outline of pitch centres: (C,Eb,G,Eb,C), with the Mixolydian mode on G restricted to the centre-piece of the 'Tango' (Scene III). Symmetry, at least in outline, is thus preserved. Such symmetry is also evident in the pattern of harmonic stability and instability. The opening and conclusion of the piece are both essentially diatonic (i.e. 'white-note' harmony) and

FIGURE 5.14 FORMAL OUTLINE: L'ABANDON D'ARIANE

ARCH-STRUCTURE		MODALITY		Total Bars
SCENE I. Section A	1-30	Ionian on C		30
SCENE II. Section B	31-103	Dorian on C/Lydian on Eb Chromaticism	(73)	
	(76	Aeolian on C/Lydian on Ab)		
Section A'	104-119	Ionian on C (Similar to Scene I, bars 8-23)		
	120	Link, on Eb	(17)	90
SCENE III. Section C	121-200	Aeolian on C (Ionian on Ab) Chromaticism	(80)	
	(140 ff.	Similar to Scene II)		
'Tango'	201-217	Mixolydian on G	(17)	97
SCENE IV. Section B'	218-234	Dorian on C/Lydian on Eb Chromaticism (Similar to Scene II, bar 76 ff., 43 ff.)	(17)	17
SCENE V. Section D	235-254	Modal complementation: 'Black-note, white-note'	(20)	
Section C	255-282	Mixolydian on F (Blues 3rd) (Hint of 'Tango')	(28)	
Section A'	283-308	Ionian on C (Similar to Scene I)	(26)	74

fairly consonant. The two areas of greatest harmonic instability, chromaticism and dissonance are located as far from the outer 'pillars' as possible: either side of the central 'Tango' (bars 121-9 and 188-196). It should be stressed that the term 'diatonicism', important in this piece, is not synonymous with functional triadic harmony. The harmonic character is such that there is a point beyond which dominant discords, for instance, dissolve into 'sets' - vertical events which cannot usefully be described as alterations of triads and seventh chords.

The basic scene for the chamber opera is a 'desolate and deserted' landscape on the Isle of Naxos. In the background is a 'mound of rocks whose tops are outlined against the sunset. During the piece, twilight descends and by the end it is almost night' (47).

SCENE I. 'Modérément Animé'

> On the left, in the first instance, kneeling on the ground in a circle and playing at knucklebones, is the choir of shipwrecked sailors; on the right Dionysus, disguised as a beggar and surrounded by revelling gipsies, dressed in paupers' rags; they are cooking a pot on a wood fire and give the impression of a Bohemian camp (48).

This first scene has a pastoral atmosphere, employing a lilting 6/8 metre. Ex.5.4 quotes and annotates bars 1-7, whose language is entirely diatonic (within the Ionian mode on C), reminiscent in this respect of the opening of Quatre Poèmes. Although the 'language' is diatonic, in that the pitches are 'white notes'; the 'grammar' is of course less traditional. However, since these bars are entirely in C, the stridency of dissonance is limited: for instance, the only available semitonal dissonances are (E/F) and (B-C).

(47) Preface to Universal Edition vocal score, Vienna 1928, 1953.
(48) Quoted from opening page of U.E. vocal score.

There is only 'internal dissonance' within C, rather than 'external dissonance' between foreign pitches or conflicting modes. Jeremy Drake comments on this use of diatonic modality within his essay in stylistic analysis, referring to a 'purity of mode' (49).

The opening instrumental introduction prolongs the dominant of C, sounded in second inversion with a low D on the double-bass. This first chord, approximating to G11, is the pentatonic set (5-35), (D,G,F,C,A). The double-bass is grouped with 'cello and bassoon to form various trichords, mostly of set (3-7), which ascend by step, in two-bar phrases. Above, another two-bar pattern, consisting of triads in second inversion, works in descent. The phrasing and sense of balance are emphasised by instrumental changes within the woodwind section, whilst strings provide a constant 'background'. The style is almost naively simple, with frequent vertical 3rds, 6ths and melodic step-wise progressions. Bar 7 features a pause chord on the dominant 11th, set (5-29), after the important dominant 13th, set (6-32), of bar 5, creating a strong sense of expectancy for the resolution to the tonic at bar 8.

Bars 8-11 are examined in Ex.5.5, as representative of the whole scene. At 'Mouvement', the male choir of shipwrecked sailors enters to offer passive, descriptive commentary, the three lines being doubled by violins and viola. Most striking is the modal sequence, within the Ionian on C, to accompany the correspondingly regular text: 'Le soir tombe; les troupeaux rentrent' (50). This simple melody, outlining two third progressions: (C,D,E,C), (D,E,F,D) is the basis for the themes of scenes II, III and V. Bars 17-18 are a melodic retrograde. The sparse instrumental accompaniment

(49) J. Drake, op. cit., p.205.
(50) 'Night is falling, the flocks return...'

uses another two-bar pattern on bassoon and piccolo: an arpeggiated C major chord, with D and B lower neighbour-notes. The underlying progression in the bass (i.e. bassoon) is also a third progression (E,D,C), and thus melody and bass - the vocal and instrumental bass lines - refer to a traditional passing 6/4 progression (i.e. voice-exchange). The centre on C is reinforced by timpani rhythms on this pitch across bars 8-23.

The sadness of Ariadne's plight is evident in the commentary: 'Par l'amour de Thésée, Ariane meurtrie' (51), though the music is still pastoral and lacking harmonic tension. However, across bars 20-24 (Ex.5.6), metrical tension is increased by the change to simple metre for the choir and strings (2/4,3/4,2/4); whilst the arpeggiated line of bassoon and piccolo continues in compound metre (6/8,9/8,6/8). Thus there is a conflict of 2 quavers versus 3 triplet quavers: an instance of what Drake would describe as Milhaud's 'polymetricality' (52). Despite this, metrical/rhythmic treatment is far simpler in the neo-Classical context than in early works, such as L'Homme et son Désir. The bass again uses clear third and fifth progressions in C (Ex.5.6). The final bars (24-30) balance 1-7, and function as an interlude between the first and second scenes. Bars 24-29 sustain 'tonic' harmony, with bar 30 focused on IV13 (F13). The instrumentation of the melodic lines supports the two-bar phrases, exactly as in the opening bars. The overall shape of Scene I is a typical ABA' structure, with A as the 'prelude' and A' as the 'postlude'. The restriction of the 'pianissimo' timpani part to the central,'B' section helps to clarify the formal divisions. Finally, as noted in Machines Agricoles and Quatre Poèmes, the wordsetting is deliberately 'artificial' and stylised in its nature.

(51) 'Ariane is torn apart by her love for Theseus', bars 14-16, p.2 of vocal score.
(52) J. Drake, op. cit., p.197.

SCENE II. 'Modéré'.

Ariadne and Phaedra appear on stage, identical in height and costume. The second scene commences with Ariadne singing a miniature aria, bars 31-40, appealing to her father, King Minos:

> O Père! O Juste Minos! Ta fille, objet de ta tendresse, naufragée aux bords de Naxos subit l'époux grossier à qui tu l'as donnée! (53).

The main mode: (C,D,Eb,F,G,A,Bb,C) is Dorian on C, or possibly Lydian on Eb (i.e. a typical ambiguity of centres a third apart), with an apparent move to Bb at bar 40. The B and E pitches of Scene I have been flattened in accordance with the increasingly melancholic sentiments. The melodic line from bar 31 onwards is derived from the opening of Scene I, within anguished, repetitive phrases, accompanied by alternating pairs of clarinets and flutes, plus viola. A trio texture is maintained across bars 31-7. The predominant motive is still a third progression, now contracted between C and Eb. The bass (now viola) also states four third progressions, commencing (Eb-D-C) across bars 31-2, thus there is correspondence between vocal and bass lines. The lilting 6/8 metre continues, though its use tends to be restricted to solo passages of Scene II. The harmonic character of Ariane's solo favours mild dissonance, although the concept of increased chromaticism for heightened emotion is developed further in the 'Plus Allant' (bars 43-9) (54), shown in Ex.5.7. Drake actually describes bar 41 onwards as a 'polymodal ostinato' (55). The passage is further

(53) 'Oh father! Oh just Minos! Your daughter, object of your tenderness, shipwrecked on the shores of Naxos, suffering the uncouth husband to whom you gave her!'
(54) 'O spectacle tragique! O femme unfortunée! Dionysos! Dionysos! Abaisse tes regards sur elle!', p.3 of vocal score.
(55) J. Drake, op. cit., p.216.

characterised by the metrical change to 5/4 and common time and the 'tutti' instrumentation, including timpani on C (bars 43-8), and cymbals (bars 45-6). This second chorus: 'Choeur des Bacchantes Tziganes' is actively involved, as opposed to the passive commentary of the chorus in Scene I. Drake comments that: 'any incipient tonal associations are quashed by inflectional dissonance' (56). Certainly this passage thrives on chromatic ambiguity, though there are pitch patterns. A broadly symmetrical structure, using contrary motion, emerges in the independent vocal parts across bars 43-4, as shown in Figure 5.15. This structure is similar to those in the fourth quartet, or Dixtuor à Vent:

Figure 5.15.

Bar 43:($\overrightarrow{2\text{-}3}$),[(3-2),(3-3)],(3-10),(3-11),(3-7), b.44: (3-3);

Bar 44 (cont.) (3-3), (3-7), (3-11), (3-10), ($\overleftarrow{2\text{-}3}$)

The Blues type triad (3-3) occurs most frequently and is part of the extended set: (4-17), (C,Eb,E,G), heard on the first beats of bars 43 [within set (5-6)] and 44. [(4-17) is also heard on these pitches at the end of the Dixtuor.] This vertical conflict of the third degree suggests a return to pastiche Blues treatment. The ostinato accompaniment (bar 43 ff.), derives from the melodic third progressions of Scene I: (C,D,Eb; D,C,D), with parallel motion a third higher, (Ex.5.7). This C 'minor' identity of the treble parts (and timpani) is contradicted by the bass: (C#,E,F#,G), i.e. there is a process of chromatic complementation:(C#,E,F#); (C,Eb,F). The octave displacement in the bass is again reminiscent of the fourth quartet: Drake views this quaver ostinato figure as 'an unmistakeable fingerprint of...[Milhaud's] neoclassical style' (57). The prominent set in the bass is (4-13), shown in Ex.5.8, spanning the tritone, which is also the most striking interval between

(56) J. Drake, op. cit., p.217.
(57) Op. cit., p.190.

the treble (on C) and bass (on F#-C#). This fondness of centres a tritone apart is another legacy from L'Homme et son Désir and Saudades do Brazil. Thus, Milhaud has maintained the most effective techniques of the early chromatic and Jazz elements and incorporated them into his developing neo-Classicism. Despite the superficial conflict, a background level interpretation of these bars would still view the music as centric about C, with a sense of dominant 9/11/13th on the final two beats of bars 43-5 (as marked in Ex.5.7) and throughout bar 47.

From bar 50 onwards, Phaedra's solo, in the Aeolian on C (58), balances that of Ariadne, with another trio texture of violins and pizzicato 'cello (doubled by alternating bassoon and horn). Bars 54,58,62 and 66 use 'medieval' type cadential formulae onto an octave or perfect fifth: hence the appropriateness of traditional modal terminology with its historical association. This is followed by the second chromatic, choral section (67-75,'tutti'), with both choruses bewailing the sisters' sad destinies in bars 71-2. Bar 72 hints again at the third progression of Scene I, bar 8: (C,D,E,D). The formal outline of Scene II thus far is: A (bars 31-42), B (43-49), A (50-66) and B (67-75).

At the 'Lent' (bar 76 ff.: Ex.5.9), Dionysus enters, disguised as a beggar, holding out his hand. He sings a line which, independently, seems based in the Aeolian on C, 'modulating' to the Lydian on Ab for the second part of the phrase (bars 80-83). As Drake observes, 'the Lydian mode is astonishingly common in Milhaud's works of 1910s - 1930s and even beyond' (59). On moving between modes, Drake comments that: 'in Milhaud's neoclassical works, purity of mode is a characteristic feature, but this does not preclude changes of mode'. However, he asserts that 'modulation is quite

(58) Modal identity supported by Drake, op. cit., p.302.
(59) Op. cit., p.203.

alien to Milhaud' (60), a point which I dispute for reasons discussed above and in Chapter 2. Interestingly, across bars 76-84, Milhaud restricts the vocal range to a perfect fifth, suggesting his respect for authentic and plagal forms. There is still melodic association with Scene I, with the prominence of the third: C-Eb. The concluding descent in bars 82-3, using an equal division of 6/8 into 4 dotted quavers, is reminiscent of Scenes I (bars 13-14) and II (bars 39-40). The basic reference set for the accompaniment is a pentatonic construct: (4-26) (Eb,F,Ab,C), the C pitch sometimes inflected as Cb. The overall modality is delightfully ambiguous: the 'cello's pedal (Eb-Ab) suggests the second inversion of Ab, whilst the vocal melody initially supports C, a further ambiguity of centres a third apart. However, the pedal on Eb (punctuated by pizzicato double-bass) may be significant on a larger scale, across the opera, as part of a third progression: (Eb-C). On the matter of orchestration,bars 76-83 are further characterised by the subtle use of 'pianissimo' tam-tam and bass drum.

At bar 84, the Eb pedal (in 'cello and bass) is converted enharmonically to D# (and Ab to G#), the D#-E oscillation again suggesting a large-scale Blues third in C (Ex.5.10). However with the pitch C above (in violin I and bassoon), localised tonal associations are towards Ab, within a dissonant context. Bars 84-92 consist of balanced phrases from Ariadne and Phaedra, as each offers money to the beggar (Dionysus). Melodic allusion in the vocal parts is to bar 8 of Scene I: (Ab,Bb,C; Bb,C,Db). The oscillating chords in the bass (lower strings): sets (5-21) and (5-22), include the Kh-related sub-set (3-4), as used prominently in the first 'opéra-minute' and clarinet sonatina. [(5-21) was also used in two sections of the fourth quartet.] In traditional fundamental bass terminology, the chords emphasise quartal components, in the manner of the open string tuning of the

(60) J. Drake, op. cit., p.205.

double-bass - though actually played by the 'cello. Drake describes the construct as a 'polymodal ostinato' (61), though I do not perceive a balanced opposition of distinct modal identities. I regard the passage as offering localised instability, within a clear, large-scale bass progression: (Eb-E-F), across bars 76-103. The sense of instability is enhanced across bars 84-95 by the agitated rhythms of tenor drum, and across bars 99-103 by a trill on D, (in viola), resolving onto C at bar 104.

Bars 104-119 are broadly similar to bars 8-23 of Scene I. Thus the overall structure so far is ternary: Scene I, Scene II, modified return of Scene I material. At bar 120, the C 'major' mode is converted to 'minor', so that the pitches (C,D; Eb,F,G), heard in 'fortissimo' octaves across the whole ensemble, act as a type of pivot from C to Eb (as the dominant of Ab). This prepares for scene III, based around Ab/C. Perhaps, though, the underlying centre is always C, as hinted by the timpani which asserts the pitch consistently across bars 104-120.

SCENE III. 'Moins Animé'.

The dissonant, chromatic modality is still ambiguous between Ab and C. Db can be viewed as a Neapolitan flattened second in C: thus Theseus's insistent exclamation,outlining a third progression: (C,Eb,Db,C), is another derivative of the third progressions of Scene I. However, the chromatic descent of the double-bass: G#(Ab) to C#(Db) is unstable, with repeated trichords of set (3-5) on lower strings [Ex.5.11(a): bars 122-129]. Bar 122 illustrates quintal harmony: (G#,D,A,F,C), (5-32), with the last two pitches double-stopped by violin I.(Milhaud used quintal harmony frequently before 1917, but

(61) J. Drake, op. cit., p.216.

less so in the 1920s.) The modality of C remains at background level: for instance bar 123 uses a dominant-type construct on G. G#/F# (bars 122, 124) are, in context, subordinate to G/F. The drama of these bars is heightened by the first use of the snare drum and the interjections on trumpet. The centre on C is quietly re-established across bars 130-132 with the chord: (C-G-D) played pizzicato on the 'cello, (the C pitch doubled by bass and timpani), as the conclusion of the chromatic descent. In terms of the plot, Theseus enquires of Dionysus, the whereabouts of Ariadne, who has fled to hide from him.

Bars 140-147, and 154 onwards, loosely resemble the early part of Scene II, through the rhythm and introduction of Bb and Eb pitches. However, the modal identity here is more ambiguous - between Ionian on Bb and Lydian on Eb - and the textures more complex. Four central bars (148-151) are more obviously focused on Gb 'major'. (These bars do highlight some shortcomings in the vocal score.) Bar 172 features a clear double-bass pedal on F, above which Theseus sings the praises of the wine he has just drunk. The vocal melody extends a scalic figure derived from bars 14-16 of Scene I, though with the modification of Bb/Eb. Third progressions return in the upper parts (flute, clarinets, trumpet and violin I) of bars 178-185: (Gb,F,Eb; F,Eb,Db), whilst the lower lines are harder to define, using further quintal harmonies. However, the bass does refer to the Db pitch (as C#:bar 179), and the progression (F#/Gb-F) is important across bars 180-1. This loud climactic point, shown in Ex.5.11(b), is amongst the most dissonant of the opera, and features forceful use of timpani, now re-tuned to Db and Bb.

The ensuing 'Moins Animé' (187-196) has similar harmonic instability to the opening of the scene, with a balancing chromatic ascent in the bass: (D#-G#), producing another ABA formal outline. The loud interjection, in octaves, at bar

196 corresponds with 186, both functioning as transitional bars. The F pedal on double-bass is re-sounded across bars 197-200, (unclear in the vocal score), in the introduction to the stylised 'Tango'. Melodic third progressions are evident again, in clarinet and viola: (D,C,Bb), (A,G,F), (C,Bb,A), with accompanying thirds above, on flutes, clarinet and violins: (Bb-D, A-C, G-Bb). From Bb, the centre modulates towards the 'relative minor', thence to G 'major', the (Bb/B) progression reminiscent of Blues third.

Bars 201-217 (Ex.5.12) are a delightful 'Mouvement de Tango', with the wit and humour typical of the neo-Classicist. One is reminded of the treatment of the 'Tango' in Stravinsky's L'Histoire du Soldat (1918). This vestige of interest from the Brazilian phase of Saudades do Brazil (62) is now used to enhance the neo-Classical effect. There is a case for bi-modality, shown in (Ex.5.12), as opposed to Drake's 'poly-modality' (63), though the centres alternate between: (C#: bass & G: treble) and (D: bass & F: treble). The resultant chords can be viewed as sets: most frequent is the (4-17) Blues chord, followed by (4-19), (4-26) and (4-27) as the seventh-type construct. (4-Z29), heard at the start of bar 202, also opens Scene IV. However, eight of the thirteen chords can be described as triads with a chromatic note attached to root, 3rd or 5th, which simply reinforces a modal interpretation. The important, repeated bass prorgession: C# leading to D, is part of a larger chromatic ascent: (C#,D,Eb), completed at the start of Scene IV, after the 'interruption' of the surprise return to C in bar 217.

The predominant mode of bars 201-217 is one upon G, despite the apparently conflicting C#-D progression in the bass. There are two alternative interpretations, the first of which favours the Octatonic Model A: (0,1,3,4,6,7,9,10),

(62) This observation is supported by Drake, op. cit.,p.187.
(63) Op. cit., p.216.

(G,G#,A#,B,C#,D,E,F). This collection affords sufficient status to the C#-D progression, accounting well for the bass arpeggio: C#-E#-G# (e.g. bars 201-3). It also explains the G-Bb oscillation in the vocal bass-line of bars 205 and 207. However, the octatonic mode cannot give sufficient weight to the balancing, triadic sequences on G and F (since pitches A and C are absent), and also suggests greater semitonal activity than is in fact the case.

The more plausible interpretation favours the Mixolydian on G, appropriate in a Jazz-type setting, with hints of Blues seventh (F/F#, bar 203), and flattened third (Bb, bars 205 and 207). The timpani reiterates the flattened seventh, whilst the treble part of the accompaniment (horn, trumpets, upper string harmonics), and the chorus of male voices, feature two-bar sequences of G and F triads. All of this reinforces the Mixolydian mode, which Drake sees as one of three main modes in Milhaud's neo-Classical operas, the others being Aeolian and Lydian. Melodically, the vocal lines (bars 201-8) employ more third progressions in this strongly triadic context: (D-B-D),(G-E), (F-A-F),(E-G-E), (D-F). Third progressions are also found in the treble of the accompaniment (bars 201-4, 209-212) and in the bass (bars 216-7).

The only complication with the Mixolydian interpretation is in explaining the C#-D progression, which may be seen as a chromatic appoggiatura leading to the dominant chord: (D,F/F#,A), bars 203-4. Alternatively, the C# may simply be another example of Lydian inflexion, common in Milhaud's music. Finally, the 'Tango' is a somewhat 'drunken' dance, in keeping with its banal text: 'O Vieillard! Ton vin le trouble! Il en a bu! Il voit double!' Simple syncopations abound, heightened by the percussive additions of bass drum (bar 205) and snare drum (bar 209).

* * * * *

SCENE IV. 'Très Modéré'

This short scene is quite dissonant, exhibiting modal conflict and ambiguity, though essentially it may just be a simple melody in a less simple context. Drake views bars 218-220 as an example of 'genuine polymodality', though I find the effect more atonal, since there are no clear modal identities. The main sounds on the first beats of bars 218 and 220 are identified in Ex.5.13 as the Z-related pair: (4-Z29) and (4-Z15), but beyond this sets are not very productive either. However, it is indisputable that Milhaud characterises each contrapuntal line by giving it a distinct instrumental colour, within a quartet texture of horn, bassoon, clarinet and oboe. The nine-bar instrumental introduction (bars 218-225) does feature a re-iterated bass pedal on Eb (horn), comparable with bar 76 of Scene II, and loose modal sequences above (oboe). Bar 226 is reduced to a dyad: (D-F), on horn and trumpet, which may be interpreted as chord II (or a substitute dominant) of the imminent C-centred mode (bar 227). This 'Plus Allant' connects with that at bar 43 of Scene II, thus assisting with structural balance. In the upper lines of the accompaniment are further instances of third progressions. The conflict of C against F#-C accords with the drama, as Dionysus tells Ariadne: 'Avancez sans crainte! Il emmène Phèdre désormais seule Reine, bon gré ou mal gré, de son coeur' (64). Finally, Drake rightly regards bars 227-232 as within a Phrygian modality, presumably on C: (C,C#,[D],Eb,F,G,A,Bb,C) (65).

SCENE V. 'Très Lent'

The start of Scene V, derived from the start of Scene IV, is a slow 'chorale', broad and dignified, suggesting another possible association with L'Histoire du Soldat. Ariadne

(64) Universal Edition vocal score, Vienna, 1963, pp.15-16.
(65) J. Drake, op. cit., p.204.

sings of her newly found happiness in a miniature aria: 'O joie inespérée! O ravissant bonheur!'(66). The expressive marking 'avec beaucoup d'émotion' is unusual for Milhaud and is indicative of increased lyricism. Ex.5.14 shows the opening of Ariadne's diatonic melody and contrapuntal accompaniment, heard on alternating 'quartets' of wind (oboe, clarinet, bassoon and trumpet) and strings.

The passage illustrates chromatic, modal complementation, articulated by distinct instrumental colours. Drake considers the 'harmony' to result from clearly articulated modal 'counterpoint' (67), appropriate for a composer with melodic priority. The mode (of the three upper 'voices') is ambiguous and could be Dorian on D, Aeolian on A, Mixolydian on G, or a pentatonic segment with prominent fourth patterns: (D-A),(C-G),(D-A). Drake favours Mixolydian on G across bars 235-250, but sees evidence of 'polymodality' (68). Whatever its specific identity the mode is clearly 'white-note', and distinct from the bass's conflicting 'black-note' pitches, also featuring fourths: (Eb-Ab), (Bb-Eb). The (Eb-Ab) pedal is comparable with that in Scene II, bar 76, also associated with Dionysus. There is a strong case for a bimodal interpretation, focusing on opposed modalities of Aeolian on A and a Pentatonic Collection 3 on Ab: (Ab,Bb,[Db],Eb,Gb). Drake considers that the 'exclusive use of "black-notes" presumes a pentatonic usage not elsewhere to be found in Milhaud's music' (69) and whilst agreeing about the pentatonicism of the bass, I dispute that this is not found elsewhere in Milhaud's music: the fourth quartet is just one example, as in Analysis 1, Ex.3.6.

(66) Literal translation: 'Oh inestimable joy! Oh delightful happiness!'
(67) J. Drake, op. cit., p.208.
(68) Op. cit., p.215.
(69) Op. cit., p.218.

The most common vertical sets of the opening are: (4-10), (C,D,Eb,F) and (G,A,Bb,C), on the first beats of bars 235-237 and (4-19) across 237-238 [Ex.5.14]. Interestingly, set (4-10) would also form the tetrachords of a modal interpretation of Dorian on D: (D,E,F,G),(A,B,C,D), with (3-7) operating motivically, and (4-19) was also used in the 'Tango' of Scene III.

A moderate level of chromaticism and dissonance persists across bars 235-242, though the restrictive pentatonic collection with its bias towards Ab affords a reasonable harmonic stability. The neo-Classical effect of this aria is enhanced by the simple two-bar phrasing and balanced structure: A (235-6), B (237-8), A'(239-240) and B'(241-2). There is also a cyclical aspect to this final scene, with bars 243-4 reminiscent of the chromatic descent at the start of Scene III, (bars 122-9), descending now from Ab to Eb. In the ensuing bars 245-6 are further hints of bar 43 of Scene II, followed by phrase A'' across bars 247-250. In these latter bars, it remains useful to note the complementation between melody and bass, reinforcing the sense of centric ambiguity.

Bars 251-254 (Ex.5.15) contain the Bacchantes's exclamations of 'Dionysus', in answer to Ariadne's request that his identity be disclosed. Dionysus and the Bacchantes throw off their rags, revealing gleaming, white garments. These bars are again comparable with the vocal lines at bar 45 of Scene II. The original phrase is now inverted and heard in ascent. The modal choice is between Dorian on G (in vocal terms), or Lydian on Bb (for the 'cello/ bass progression): a characteristic ambiguity between a 'minor' modality and its 'relative major'. The timpani is present again on C across bars 249-253. The overall effect is of a plagal cadence: IV13-I, (Bb13-F), leading to the modality on F (bar 255).

There are allusions to the 'Tango' in the 'Lent' (bars 255-270) (Ex.5.16), with alternating chords on F and G, now in the Mixolydian on F. Such vamping with Latin American rhythms frequently uses I-II-I, as opposed to I-V-I, first acknowledged by Drake (70). This favouring of supertonic over dominant is characteristic of Milhaud's modality. On the large scale, the (F-G) pitches may be seen as chords IV-V of the overall modality on C. Between bars 255-262 and 267-270, the timpani continues with the C pitch, as the dominant of F, and large-scale tonic of C. The formal framework is A (bars 255-8), A' (259-262), B (263-6) - bass moving between D# and F# - A' (267-270), C (271-274), A'' (275-279) and A'' (280-282). Neo-Classical surface detail emerges in the ornamentation, with single and double grace-notes; equally, vestiges of Jazz persist in the mixture at the third degree: G# (bar 266), moving to A, as the third of F (bar 267), in the violin I part, doubled by flute. Conflict at the third occurs vertically on the second beat of bar 267, with the B/Bb pitches (on violin I and viola) of superimposed G and Eb chords. The ostinato of bars 255-262, 267-270, yields set (4-26) - used in the 'Tango', and (5-21) - used around bar 84 of Scene II; or triads of d and F, Eb and G, (Ex.5.16), as further examples of Milhaud's ambiguous centres a third or sixth apart. The ostinato in bars 263-266, 271-272 and around bar 280 yields sets (6-27) and (6-Z26) (Ex.5.17). However, the harmony is increasingly pitch-centred about C.

The chromaticism in Dinoysus's line across bars 267-270: (C,C#,D,Db,C), reinforces the main (diatonic) modal pitches; whilst the phrase concludes with Milhaud's well-tested Triad Motive (ascending sixth, descending third): (C,D,C-A-F). Ariadne's line above: (G,D,C,Eb-C) is again reminiscent of Scene II (bars 31-2). Melodically, the next two phrases of Ariadne and Dionysus, at bars 271 and 275 respectively, are

(70) J. Drake, op. cit., p.213.

nicely matched, utilising the ascending-descending scalic curve first heard in Scene I. Bar 274 features another vestige of Jazz with vertical pastiche of the Blues on strings: (C,E,C,Eb,G). (The low C on double-bass is unfortunately omitted from the vocal score). The centre on C is still more evident at bar 275 and is confirmed at bars 277-8. The vocal writing beyond this point is entirely diatonic in C, as at the start of the opera. By bar 282, there is a definite dominant-type harmony, creating expectancy before the 'Vif', similar to that first used at the start of the piece (bars 7-8). The expectancy is appropriate since Dionysus has just agreed to grant Ariadne's wish, to wander the starry skies from dusk to dawn. The chord is V13 (G13), presented typically in second inversion.

The final section (bars 283-308) operates in a Blues-type mode on C: (C,D,Eb/E,F,Gb/G/G#,A,B,C), with the Eb/D#-E Blues third important to the end. This reiterated figure is heard on the double-bass; whilst the timpani stresses E and C in each bar. In terms of the plot, Dionysus climbs with Ariadne at dusk to the top of the rocks. A crown of lights surrounds her head and hanging from her hand is her star-constellation. There is a Stravinskian texture here, with alternating metre: 6/8, 5/8 for 25 bars, rare in Milhaud's music, but with a precedent in the seventh quartet (1925). The instrumental rhythmic groupings: (3 + 3),(3 + 2) create a pattern of quaver-crotchet (x 3), crotchet (x 1); whereas the vocal lines have the opposite 'long-short' pattern. The dance-lilt and patterns of accentuation are strikingly similar to those of Stravinsky. Maybe Milhaud was familiar with Les Noces (1917). Despite this localised association, as Drake rightly points out: 'Milhaud rarely... followed Stravinsky down the path of ametricality. Rapid changes of metre are practically non-existent in his music' (71).

(71) J. Drake, op. cit., p.192.

The basso ostinato (Ex.5.18) again uses repeated trichords of set (3-4): (E,A,F),(D#,G#,E) forming a combined set: (5-6). Vertically, the sets are (4-14) and (5-21), punctuating first and second beats respectively. Small variants of pitch occur in bars 291,293,299,301 and the penultimate 307. The ostinato (with added lower fourth) is again as used in Scene II (around bar 84), except that the order of chords is reversed, whilst the E/D# chordal alternation is also reminiscent of the 'Tango'. Drake sees these bars as another 'polymodal ostinato' (72), but I argue that the centre on C is indisputable. The triumphant, joyous text is sung by the combined choruses (treble and bass), the lowest parts of which each enter one quaver later (bar 287 ff.): 'Au sein d'ordre nébuleuses, dans le choeur des astres purs, elle émerge, glorieuse, des profondeurs de l'azur!' (73). From bar 287 onwards the cyclical aspect is maintained, recalling Scene I, (bar 8), with vocal parts moving in thirds and sixths. The 'Vif' is an embellished melodic version of the original statement in Scene I. Ex.5.19 compares Scene I (bars 8-13), with Scene V (287-292) and Scene I (14-16 or 20-22), with Scene V (303-308).

Bars 303-8, (Ex.5.20), commence after an imperfect type cadence at 303, with a G major triad (D pitch on top), heard above the instrumental basso ostinato. This is balanced at bar 306 by a C major triad (C pitch on top), representing the main perfect cadence. All voices now hail in rhythmic unison: 'la fille de Minos et de Pasiphaé!' Rhythmically, the first two semiquavers of the bar sound as an anacrusis, supported by chordal punctuation: this contradiction between metre and rhythm is one Stravinskian characteristic (Ex.5.21). In the vocal parts, there is a subsidiary 'perfect' cadence from the second beat of bar 305, across to

(72) J. Drake, op. cit., p.216.
(73) Literal translation: 'In the heart of hazy clouds, within the choir of pure stars, she emerges gloriously from the depths of the azure!

bar 306, with chord V in second inversion. In voice-leading terms, the melodic line of the accompaniment has prolonged the fifth degree throughout the 'Vif', the descent to $\hat{1}$ occurring in bar 306 (Ex.5.21). The instrumental ostinato is modified at bar 307, as at bars 291 and 301, with a strong desent on 'cello and horn: (F,E/Eb,D), resolving onto C at bar 308. The chords of bar 307,(D,G,Eb/E,C) and (Db,Gb,D,B), parody a cadential 6/4 progression in C - the second chord having a 'Neapolitan' inflection. The full sets are (5-11) [encompassing the Kh-related (4-17)] and (5-9). Bar 308 sees the triumphant resolution onto a pure C major triad.

CONCLUSION

L'Abandon d'Ariane is a product of neo-Classicism, firstly, with respect to its modality: diatonicism (i.e.'white-note' harmony), Dorian, Lydian and Mixolydian patterns, cadential formulae, triadic themes and third relations are all evident. It is neo-Classical, secondly, in its small scale: the chamber ensemble, choruses of three singers, the brevity and importance of formal balance, control and objectivity. Typical are the two-bar melodic phrases, repeated ostinati, closed structures (e.g. ternary form) and the neo-Baroque chorale opening of Scene V. The opera is also neo-Classical in its Greek mythological subject matter and the use of choruses as commentators. The influence of Stravinsky is evident in metrical and choral treatment. Relevant works are L'Histoire du Soldat (1918) (with which Milhaud's chamber opera Le Pauvre Matelot (1926) was coupled), Les Noces (1917) and Mavra (1922), which greatly impressed Milhaud. For all this, L'Abandon d'Ariane is not 'pure neo-Classicism' (if such is not a contradiction). Milhaud continues to assimilate the most effective techniques of his chromatic and Jazz phases to enhance the neo-Classical 'core': such as chromatic bass progressions, limited bi-modality and the continuing, less rigorous, use of Blues third and seventh.

ANALYSIS 8

THE SONATINE POUR CLARINETTE (1927): FINAL CHAMBER WORK OF THE 1920S

PRELIMINARIES

The Sonatine pour Clarinette (Op. 100) is the final chamber work of the 1920s, which, like L'Abandon d'Ariane, was composed during the Summer of 1927 at the family home 'L'Enclos', close to Aix-en-Provence. It was first performed by the dedicatee, clarinettist Louis Cahuzac, with the pianist M.F. Gaillard, at a concert of the Société Musicale Internationale in Paris, 1929. The work lasts approximately 9 minutes.

Analysis of the sonatina stresses third relations at all structural levels, producing discontinuity and polarity in the first movement, yet promoting continuity and coherence in the second. The roles of focused dissonance and consonance are also explored. Although the sonatina is primarily a product of neo-Classicism, the language is highly chromatic: based on allusions and contradictions. This is in stark contrast to L'Abandon, yet reminiscent of earlier works, such as the opening of the fifth chamber symphony (1922) (74), or the 'Funèbre' of the fourth quartet (1918). The structure across the three movements consists of a progression b-C (75), also present (thus prepared) on the smaller scale within the opening movement. The relatively unusual procedure (though anticipated in L'Abandon) of thematic connection between first and final movements (both marked 'Très Rude') creates the effect of a single

(74) The opening movements of the Dixtuor à Vent and sonatina share the designation: 'Rude'.
(75) The Dixtuor à Vent also anticipates the overall b-C progression.

extended movement, with a slow, central episode. Formally, the movements may be viewed as a modified sonata form (embracing elements of ternary and binary structure), followed by a standard ternary structure and concluded by another modified sonata form. Formal summaries are given at the start of each movement.

ANALYSIS: I. 'TRES RUDE'

The opening movement operates within an all-chromatic scale on B, but its driving force is generated by the tension existing between conflicting assertions of V-I, in the terms of both b and C. Hence the prominence of F# in the bass, contradicted by G above. Formally, there are two sections: bars 1-34 (centred on b); 35-56 (centred on C#/G#), which are recapitulated and combined in a final section (bar 57 onwards, centred on b) with a brief coda across bars 87-95, shown in Figure 5.16:

FIGURE 5.16 FORMAL OUTLINE: I. 'TRES RUDE'
MODIFIED SONATA FORM

		Total Bars
SECTION A	Bars 1-34	34
First 'subject' group Centred on Aeolian/Harmonic minor on B Linking material into second 'subject': bars 30-34		
SECTION B	Bars 35-56	22
Second subject group Centred on C#/G# (and C) Ostinato preparing for return of first subject: bars 53-56		
SECTION A/B	Bars 57-86	30
Recapitulation (varied) and thematic combination Centred back on B 'minor'. Bi-modality at minor 3rd: Eb/eb & C: bars 72-6 'Mouvt.': bars 77-86 (including Pentatonic bass on F#)		
CODA	Bars 87-95	9

The sonatina is primarily motivic in construction and one such figure, operating at surface level, is illustrated in Ex.5.22. This vertical set (4-7), (F#,G#,A#,B), which includes the Kh-related sub-set (3-4), is identical to that in the opening of the Dixtuor (76). The main horizontal motive is a fifth progression (D,C#,B,A,G), subjected to much varied repetition, before it is transformed and incorporated into the finale.

The opening is based in the Aeolian/Harmonic minor on B, with mixture at the fifth: F/F# - hence the set (4-18), (B,D,F,F#). However, there is also a sense of Lydian on G (i.e. third relations: upper voice, bars 1 and 3), as the dominant of C. From the opening bars, repetition and textural thickening (through octave, seventh and ninth doublings) are important. The style is expansive and dramatic: aspects which became notable hall-marks of Milhaud's Middle Period (1930-early 1950s). Bars 5-8 (shown in Ex.5.23) repeat the opening motive, now with a localised Phrygian inflexion (F,E,D,C,B), within a possible dominant seventh in C (G7, in upper parts). This conflicts with Bb minor (in the bass), which can be seen enharmonically as a 'substitute dominant' of B. Much melodic use is made of the fifth progression, both perfect and diminished. Amongst the invariant intervallic shapes are again (3-4) and (3-7).

Summarising the opening ten bars, (Ex.5.26), the most striking phenomenon is the tension caused by the conflicting V-I progressions, existing in semitonally polarised modalities on b and C and at different structural levels: F#-b in the first movement, yet G-C across the sonatina as a whole. Thus dissonance receives a high profile at foreground and (implicitly) background levels.

(76) The formation: (F#,G,A#,B) is also acknowledged as a notable chordal type by J. Drake, O.D.M., pp.210-211. See also Chap. 3, p.106, note 19 of this dissertation.

Bars 9-10 are detailed in Ex. 5.24, with the dominant: G of C, unequivocally stated in the bass. In fact, the initial chord is a substitute dominant, the augmented triad: (G,B,Eb), set (3-12); whilst the horizontal span - of the left hand above the bass - produces the diminished triad: (Eb,C,A), set (3-10) (77). At bar 11, the horizontal fifth-motive is partially inverted; whilst the vertical motive is 'expanded' from (4-7) to (C#,D,F#,G), set (4-8) [Ex.5.25]. The essential identity is maintained by the dissonant minor ninths and the important sub-set: (3-4), (F#,G,B), encapsulating the b/G ambiguity. Vertical presentation in bar 11 is balanced by the horizontal in the clarinet at bar 12 (previously heard at bar 5), together with sets (4-20) and (4-5) in the piano. Additionally, the bass triads outline (3-4) across bars 12-15. Ex.5.27 attempts a voice-leading summary of bars 1-15 which, despite the chromatic complexities, shows that there are recurring pitches of structural importance, especially the third scalic degree in the upper voice.

Set (4-7) is restated across bars 16-20 (Ex.5.28), followed by (4-Z29): (G#,A,F#,D), and (4-20) again: (F#,G,B,D), still including (3-4). The dominant F# is prolonged in the bass by the upper neighbour-note G#. In the clarinet part of bars 16-19, the b-based third motive (derived from the opening) is subjected to varied repetition, phrased across the bar and shown in paradigmatic layout in Ex.5.29. A similar process operates across bars 20-24: phrase extension by sequence with rhythmic development. The third progression of bars 16-20 is now inverted (as bar 11) and based on A/f#. In bars 24-27 the piano again restates set (4-7). In bars 24 and 26, this is followed by (4-5), (G,G#,F#,D), and (4-20), as at bar 12 [Ex.5.30], with (3-4) still incorporated. In

(77) A similar mixture of augmented and diminished triads, mostly at surface level, was observed in the 'Funèbre' of the fourth quartet, Analysis 1.

addition to set (4-20), set (4-18), first heard in bar 2, is also relevant across bars 25-9. Bars 30-34 (Ex.5.31) consist of linking material in the piano between the two subject groups of the modified sonata structure. The harmony is now formed by set (4-3), (A#,B,C#,D) - i.e. a combination of parts of (4-7), (F#,G,A#,B) and (4-8), (C#,D,F#,G). There are more occurrences of (4-Z29) in bars 30 and 32, whilst the F#/G conflict inherent in (3-4) is reinforced across bars 34-5, with the bass F# asserting chord V of b 'minor'.

The second subject (bars 35-40) is examined in Ex.5.32, the mode now founded on C# with emphasis on the fifth: G# (78), preparing the ground for the second movement on Ab. Again the music operates at different levels. There is strong semitonal opposition: C# versus C, used as substitute dominants to B, in the sense that both represent an opposite polarity. This chromatic opposition to B serves to reinforce it as the pitch centre. The most frequent 'triads' are sets (3-9) (C#,D#,G#) and (3-3). (3-9) (C#,D#,G#), (A#,B#,E#) features harmonically (bar 36) and melodically (bars 42, 50) against a C-based or at least 'white-note' bass (79). The second subject in the clarinet (bars 35-41, 44-48: Ex.5.33) balances a C# (Mixolydian) phrase with prominent G# (and sequential fourth-patterns) against an F# based phrase with prominent C# (pentatonic segment), thus leading back to the 'tonic' of C#.

Sequential patterns are used in the piano part of bars 48-52; whilst the clarinet continues with the C#-G# focus. Ex.5.34 shows a chromatic bass descent: G#-Db(C#), balanced by ascent Eb-A#(Bb), with small-scale reference sets still

(78) The stressing of the fifth is further evidence of the lingering legacy of Jazz, epitomised in La Création du Monde ('Romance'), Analysis 5. (See pp.192-4, 204.)

(79) The concept of 'white-note' modality polarised against 'black-notes' in Milhaud's music was first proposed by J. Drake, O.D.M., p.206.

(3-4) and (3-7), in addition to two occurrences of the hexachord: (6-Z25). Repetition still has a high profile in bars 53-6 (Ex.5.35), with an ostinato which anticipates and prepares for the return of the opening subject. Typically, the pitch and rhythmic components of the ostinato are of differing lengths, the bass pitch pattern four crotchets long, against a rhythmic pattern of 5 crotchets. There is further use of melodic sequence, (bars 54-6) and the unification of a bi-modal passage, triads of d and E: set (6-Z29), by means of third progressions (80). The d/E combination is used strictly, as demonstrated in Milhaud's article of 1923. The sense of the continuing influence of Jazz is maintained by appearances of the Blues chord: (4-17), (E,G,G#,B), a repeated minor third figure and syncopated quaver-crotchet-quaver rhythm (on clarinet), and the expansion to 5/4 metre (81).

Bar 57 marks the return of the opening, where there is more subtlety in treatment of repetition than in earlier works. The Phrygian modality of the clarinet line is striking, centred on b and then on f# (Ex.5.36): created by sequential repetition (at a perfect fourth) of a phrase with a diminished fifth span. With the recapitulation returns set (4-7): (F#,G,A#,B), (bar 58 onwards), together with the innate tension of the opening. The addition of C in the clarinet produces (5-6), used in a similar context in the opening of the Dixtuor) The presentation of (4-7) is developed across bars 59-71 in a fragmented dialogue

(80) The superimposition of modal centres a major second apart, i.e. set (6-Z29), also featured in a similar context in 'Ipanema' (Analysis 4, p.177). This practice also occurs in the 'opéras-minute', especially in La Délivrance de Thésée.

(81) This short 5/4 passage seems to anticipate Copland's style in El Salon Mexico (1936). Perhaps it is simply the composers' similar responses to Latin American inspiration.

(Ex.5.37) (82). Between bars 59-67 and 71, (4-7) is contained within (5-21), (F#,G,A#,B,D) - a set also used in Scenes II and V of L'Abandon d'Ariane. The appearance of (4-7) is modified in the clarinet part of bars 68-70, which involves set (5-3), (D#,E,F#,G,D). Ex.5.38 suggests the overall framework across bars 59-71: a bass pattern affirming the G#(Ab) centre (of the second movement), with conflicting patterns above (83). In addition to G#(Ab), the other important pitches are C# and F#. There is an enharmonic perspective, with the Abs of bars 59 and 62 midst the sharps, preparing for the D# conversion to Eb at bar 72.

Bars 72-6 of the piano part involve conflicting bi-modality at the minor third, using more triadic blocks (Ex.5.39), as across bars 53-6. The upper part supports C 'major', whilst the bass affirms Eb 'major-minor'. A sense of Blues third results when upper and bass parts are regarded together as C 'major-minor' in first inversion. The Eb(D#) bass pedal is itself part of a third relation with the tonic, B, whilst the upper piano part confirms the importance of 'tonal' sequence in C (bars 73-5, relative to bars 72 and 74). (4-18) in bar 73 occurs on the same pitches as in bar 2. Thus bars 72-3 reinforce the opposition of C and B. Meanwhile, the clarinet presents the second subject (Ex.5.40), now also in C. In bars 77-82 (Ex.5.41) an F# bass pedal is reiterated, suggesting dominant function, though the chord is in fact a second inversion of B 'major' (84). This is followed by the presentation of another augmented triad: (C,E,G#), C supported above at bar 82 by a scalic

(82) The idea of repeating and extending the semiquaver fragment (bars 70-71) anticipates a similar device in a short piece for viola and piano: 'Le Wisconsonien' of Quatre Visages (1944).
(83) Bars 66-7 provide a further striking example of block chordal transposition.
(84) In terms of black-note/white-note modal opposition, these bars employ the opposite procedure to bars 42-3.

fragment of Aeolian on C . Bars 83-86 combine ideas from the two subjects (85), at which point there is a return to the mode on b and the recurrent set (3-4): (F#,B,G). Interestingly,the bass-line is pentatonic: (F#,G#,A#,C#,D#), including the pitches of the dominant triad: (F#,A#,C#), significant in terms of b.

The coda (bars 87-95: Ex.5.42) reaffirms previous details. The localised reference set: (4-7) is restated, with subset (3-4): (F#,G,B). F# in the bass of bars 88, 90-91 heightens the sense of the dominant seeking resolution, combined again with the Lydian on G and Phrygian/Aeolian mode on B. Bars 92-4 feature (F#,G,B) melodically on clarinet, whilst the left hand of the piano juxtaposes D,F# (first beat - third related to b) against Bb/A# (third beat), implying another (3-12) augmented triad. The other pitches of the Bb minor chord add to the sense of dominant function, with Db viewed enharmonically as C#, and F natural as E# leading back to F#. Third relations either side of b: (b-G; b-D) are one cause of innate tension and disruption in this movement. The final bar simply states the B pitch in octaves, unlike the complex concluding chords of the early 1920s (e.g. Dixtuor), and possibly suggesting a refinement of the ending of the first movement of the fourth quartet (1918). However, despite the octaves on B, the 'argument' which occasioned the first movement is unresolved.

Finally, Ex.5.43 is a middleground voice-leading graph, which favours an upperline descent from $\hat{3}$, i.e. D, embracing the surface-level fifth motive: (D,C#,B,[A,G]). The graph divides into three parts which accord with the $\hat{3},\hat{2},\hat{1}$ descent. The bass-line of the section up to bar 34 has a clearly established chord I: B' (bar 2 ff.), though the most prominent pitch is F#. Sometimes F# implies a second

(85) This is a technique applied from the fourth quartet onwards.

inversion of B 'minor', though at bar 34 (f#') it seems to have the articulatory function of a dominant, with pitches G and B above (as an implied V of C). The 'second subject' corresponds with C#, $\hat{2}$ (bar 35 ff.), and this is where the conflict with C natural (the tonic of the finale) is most apparent. The third section (bar 57 ff.: recapitulation) could be construed as returning to $\hat{3}$, thus creating an interrupted structure: $\hat{3},\hat{2}//\hat{3},\hat{2},\hat{1}$. However, the structural I is not clearly restated, and, despite the V in bars 78 and 91, the c#' above (bars 68-9, descending chromatically to c' natural, bar 72 ff.) is not in the correct octave. The true upper register is one octave higher. The most unorthodox part of this $\hat{3},\hat{2},\hat{1}$ progression is the non-alignment of the structural $\hat{2}$ and chord V, and the long period across which the $\hat{2}$ is prolonged.

* * * * *

II. 'LENT'

The 'Lent' is a ternary form, centred on Ab (prepared as G# in the first movement): Figure 5.17 (overleaf). There is a Lydian tendency to the modality (shown in Ex.5.44), with emphasis maintained on the fifth degree, melodically and harmonically by an Eb bass-pedal. The fifth progression (Eb,Db,C,Bb,Ab) is applicable at two structural levels: in terms of the initial melody and the overall melodic structure of the movement (86). The first section (bars 1-13), is dominated by the Eb pedal, i.e. chord 'Ic', similar in its role to the F# pitch in the coda of the first movement. This creates appropriate instability or expectancy and also prepares the leading note (D#) for the central section on E. Eb is prolonged through bars 1-6, reinforced by the upper neighbour-note, F, and returns at bar 13. Its temporary removal across bars 7-13 leads to greater harmonic

(86) There are similarities (in the step-wise fifth descent) with melodic material from the opening of the first movement: (D,C#,B,A,G).

movement (Ex.5.46), where Blues-type chords, e.g. (4-17), abound. The bass at bar 7 effects a modulation to the sixth scalic degree, as a kind of interrupted cadence (Eb-F: V-VI) and is also a possible vestige of Jazz (87). Sequence with localised variation extends the upper piano textures throughout this opening section. There is also literal repetition of the bass progression across bars 7-8. In bars 6 and 13 (Ex.5.45) are further instances of the

FIGURE 5.17 FORMAL OUTLINE: II. 'LENT'

TERNARY FORM

		Total Bars
SECTION A 'First subject' material on Ab. Lydian tendency Link into second section Ab - G# (mediant of E)	Bars 1-13 Bars 14-16	14 3
SECTION B 'Second subject' material on E Statement-response Dove-tailed link into Return of first section: G# - Ab	Bars 16-36 Bars 35-40	20 4
SECTION A'	Bars 41-53	13
CODA Modality of Ab minor Piano reference to Section B Conclusion on dominant	Bars 54-58	5

ubiquitous Triad Motive, (ascending sixth; descending third), a feature of Milhaud's neo-Classicism in the 1920s.

Bars 14-16 lead into the central section (bars 16-36). The left hand of the piano at bar 14 features exchange of pitches (Bb/Ab and Ab/Gb), and across bars 14-15 third

(87) The recapitulatory bars 41-53 are almost identical to the expository bars 1-13, apart from superficial elaboration in the treble register of the piano part.

progressions (Ab,Bb,C) (Ex.5.47). In bar 15, the fourth interval is reintroduced (as at the opening) to promote expectancy. The Eb (i.e. D#, 'leading-note') and F of bar 15 provide a chromatic encirclement of the impending new 'tonic' of E. Enharmonic change across bars 15-16 creates a cyclical aspect, when connected with the prominent G# of the first movement's second subject. At the end of the central section, (bars 35-40), the modulatory procedure is simply reversed, outlining a progression which moves from an area of four flats, to one of four sharps and back again (Ex.5.47). This large-scale symmetry, (co-ordinated by third relations) involving mirror-image, is typical of the early 1920s (88) and the final period beyond 1950.

The melodic material of the second subject appears from bar 16 onwards, involving mainly the clarinet and treble of the piano (Ex.5.48). The material consists of a statement in the Lydian mode on E, followed by a response in the Phrygian on B (spanning the tritone: F-B). Possible vestiges of Jazz influence include the repeated minor third figure: (B,A#,G#), which may be linked with a similar one: (B,A,G#) in bars 53-6 of the opening 'Rude' (89). Again emphasis is on the fifth, B, possibly significant in preparing the Cb, mediant of Ab minor, at the start of the coda.

Presentation of material across bars 19-21 involves the typical combining of statement and response, with parallel thirds and another occurrence of a Blues chord (on E, with G/G#). Bars 22-9 still subscribe to a background structured on E (Ex.5.49); whilst 30-34 (Ex.5.49) allude to the first

(88) The 'Fugue' in the Dixtuor à Cordes (1921) uses this palindromic technique.
(89) This could be seen as Milhaud's 'inflectional polyvalency' within modal treatment. The 'diatonic skeleton' is preserved, despite alteration of some accidentals: J. Drake, O.D.M., p.206.

movement through the V-I (F#-B) progression of bars 32-3 (the 'dominant of the dominant') and the tritone: (B-F). This is heard across bars 5-9 in the piano part of movement I and is also important in the 'response' of the second subject of movement II. The term 'dramatique' (bar 16) was never used in Milhaud's chamber music before his increased interest in opera in the mid 1920s, and his neo-Classical style is more 'dramatic' in conception for this reason.

The opening, Ab-based material returns at bar 41, after enharmonic conversion from G#, as the third degree of E. Such third relations (E-G#/Ab) are the catalysts of background unity in the 'Lent', whereas in the opening 'Rude', third relations either side of b were the cause of tension and disruption. After the condensed recapitulation, there follows a brief coda (bars 54-8: Ex.5.50). The change to the 'minor' mode on ab is reserved for this moment, supported now by a tonic pedal. Above this occurs the progression: I-(♭VI)-I-(♭VI)-V, with the chromatically inflected chord (♭VI), (Fb,Ab,Cb). The Fb effect is achieved by voice-leading, as the upper neighbour of Eb, which is itself the fifth of the Ab chord. Above the piano's chordal framework (with its references to the central section), the clarinet moves independently, tracing a diminished seventh: (E,Db,Bb,G),(4-28). This linear presentation of a diminished chord is contained within the harmonic minor scale on Ab: (Ab,Bb,Cb,Db,Eb,Fb,G,Ab), as the second, fourth, sixth and seventh degrees. The Bb and G pitches (bar 56) are the pivot between the diminished chord and the dominant: (Bb,G,Eb), upon which the 'Lent' concludes. Whether or not this inconclusive ending represents another vestige of Jazz (90), it creates apt expectancy for the finale.

* * * * *

(90) There are again parallels with the central 'Romance' movement of La Création du Monde.

III. 'TRES RUDE'

As with the opening 'Trè̀s Rude', the finale is also a modified sonata-form (shown in Figure 5.18), making use of a similarly chromatic language, now founded on C (Ex.5.51), and stressing B as the leading-note:

FIGURE 5.18 FORMAL OUTLINE: III 'TRES RUDE'

MODIFIED SONATA FORM

		Total Bars
SECTION A	Bars 1-27	27
Lydian tendency mode on C		
Importance of F#/G		
Chromatic involvement		
High level of dissonance		
Reiteration of A#/Bb	Bar 14 ff.	
SECTION B	Bars 28-60	33
Phrygian/Aeolian mode on F		
Reduced level of dissonance		
Most distant episode (Invoking Fb)	Bars 36-44	
Return to F 'minor'	Bar 47 ff.	
Sequence	Bars 51-54	
Last four bars of section, as bars 51-4 decorated.	Bars 57-60	
SECTION A'	Bars 61-82	22
Recapitulation		
Lydian tendency mode on C		
Repeated cadential formula		

Thus the centres of the movements: (b,G#/Ab,C) are connected by third relation. The main melodic material of the finale resembles that of the preceding movements, as a descending statement of two consecutive third progressions: (B,A,G; F,E,D), followed by a response: (C-E,D-F,G-E), as shown in Ex.5.62(a). The tritone is of continuing relevance, melodically (B-F) and as part of the bass-thickening (C-F#). These observations support the idea of the sonatina as one essentially monothematic movement, with a slow central episode.

Bars 1-4 are shown with a set-theoretic bias in Ex.5.51, the opening sound: (C,F#,D,B), (4-Z29), recurring in bar 4 as (B,F,G,E). Set (4-Z29) is contained within (6-18), which occurs twice in bar 3 and may provide a possible 'reference' set for the opening, or indeed the movement. The pitch structure of the opening stresses the tritone and 'triads' such as (3-8) and (3-5). As observed earlier, surface features include transposed triads, melodic thickening at the ninth, seventh or more rarely the octave and strong contrary motion between treble and bass. In pursuit of the set-theoretic perspective, Figure 5.19 identifies invariant sub-sets, all involving the tritone (0,6), i.e. dyad (2-6):

FIGURE 5.19 TABLE TO IDENTIFY INVARIANT SUB-SETS

CARDINALITY/SET	INVARIANT PITCH-CLASSES ALIGNED
(3-5)	(0,1, 6)
(3-8)	(0, 2, 6)
(3-10)	(0, 3, 6)
(4-13)	(0,1, 3, 6)
(4-27)	(0, 2, 6, 9)
(4-Z29)	(0 4, 6,7)
(5-9)	(0,1,2, 4, 6)
(5-10)	(0,1, 3,4, 6)
(5-Z12)	(0,1, 3, 5,6)
(5-32)	(0,1, 4, 6, 9)
(5-Z36)	(0, 3, 5,6,7)
(6-18)	(0,1,2, 6,7,9)
DYAD SET (2-6)	* *

The balance is redressed in Ex.5.52, which seeks a more exact modal identity. The prominence of F#/G favours both Lydian and Octatonic Model A on C: (0,1,3,4,6,7,9,10), embracing the C-F# polarity and Blues third. However, this octatonic interpretation cannot satisfactorily explain the prominence of the 'leading-note', B, often heard with the F#/G as sub-set (3-4), thus another cyclical aspect from the opening movement. Although, the other octatonic collection on B: (B,C,D,Eb,F,F#,G#,A) would explain (B/C), and the prominence of F#, it could not do justice to the semitonal pair (F#/G), or to the Blues third (Eb/E).

The most useful set-theoretic and modal interpretations can be combined and the (6-18) set mapped onto a scale of C. The Lydian and octatonic modes each account for all but one of the six pitches. Furthermore, the intersection- pitches form the opening set: (4-Z29). In favour of the (6-18) reference set is that the appearances already mentioned occur on the first and third beats of bar 3. All the following (Kh-related) sub-sets are present in bars 1-4: cardinality 3 - 5,8,9,10,11; cardinality 4 - 3,27,Z29. Incompatible sets are: (3-12) and cardinality 5 - 9,10,Z12,32,Z36. Perhaps, the most satisfactory solution is to envisage a Lydian mode on C, with chromatic encirclement around tonic and dominant: (B-C-C#; F#-G-Ab). Such a mode would also preserve the motivically important set (3-8): (C,D,F#), (F#,G#,C) and (D,E,G#), as well as set (3-5): (C,F#,G) and (F#,B,C).

Bars 5-9 maintain the basis on C (Ex.5.53) with vestiges of Blues syntax, suggested by the (3-3) vertical sets: (F,G#/A), (D,F/F#), (C,D#/E). Horizontally, pentatonic pitch patterns occur in the bass, focused on D#: (F#,G#,C#,D#), as members of set (3-7) in bars 7,9,10,13-14. The minor 9th interval in the semiquaver figures of bars 6,8 and 12 is similar in effect to the opening of the first movement. Bars 10-13 are further affirmation of C as the main centre, achieved by stressing the dominant seventh, with the root (G) heard in the bass. (4-17) in the bass of bar 13 is a continuing reference from the first and second movements. In bars 14-20 (Ex.5.54), (C,E,G) is presented in the treble of the piano, with conflicting pitches (A#,C#) of a possible tritonally opposed F# triad beneath. The clarinet line, in a sense, combines the two within a localised octatonic-type framework: (Bb,E,G,C#) (4-28). A#/Bb in the bass is prominent through bars 14-27, with occasional resolution onto B (bars 18 & 22). Across bars 14-20, the rhythmic patterns of the repeated material contradict the metre: basically 3/4 within 4/4.

In bars 18, 21-23,(Ex.5.55), the piano part emphasises the (Bb-E) tritone (as opposed to C-F#), sometimes combined with G, in a (3-10) diminished triad. Bb/A# is the common reference pitch.There follows a four-bar piano interjection, (bars 24-7: Ex.5.55) consisting of a two-bar repeated unit (91). This dramatic, rhetorical gesture is not typical of Milhaud's earlier neo-Classicism, but is connected with his interest in opera. The prolongation of Bb continues, as does a tendency to oppose pitches semitonally, as in set (7-22) of bar 25: Eb/D; Gb/F; A/Bb/B, composed of sub-sets (4-27) and (3-11). The set patterning in bars 21-23 and 24-27 is very clear and is further evidence of Milhaud's fondness of mirror images:(7-22),(7-29),(7-14) is reversed to produce: (7-14), (7-29), (7-22). Set (4-18), a sub-set of (7-22), connects back to the first movement.

The second section [bar 28 ff.: Ex.5.56(a) & (b)] is similar in its relative consonance to the second subject group of the first movement. A voice-leading approach is productive within the context of a 'synthesised' mode of Phrygian and Aeolian, with flattened 2nd, yet perfect 5th: (F,Gb,Ab,Bb, C,Db,Eb,F) (92). Occasionally, the melodic minor inflection is used in ascent: (D,E). Bars 28-9 contain the material for bars 31-2, 34-5, 38-9, 42-43. Structure and balance are again generated by judicious repetition. A 'dominant' half-close is employed as an ending formula for the initial three-bar phrase, i.e. bars 30 and 33, balanced by a 'tonic' full-close in bars 31-2, 34-5. The most harmonically remote bars are 36-7, 38-40 (especially) and 42-44, shown in Ex.5.56(b). A three-bar repeated formula concludes on an Fb chord: (Fb,Ab,Cb) (bars 40,44), incidentally chord VI of the coda in the second movement; here, a substitute dominant in F. The surrounding bars 41-2, 45-6 represent

(91) The greater use of repetition is typical of works of the later 1920s.
(92) This mode is the localised dominant of Bb, and overall subdominant of C.

highly dissonant interjections, with essentially 'dominant' function (Ex.5.57). They use modified inversion of the initial melodic figure, with more minor ninth/major seventh thickening. The right-hand parts of bars 41-2 are exchanged in bars 45-6, again shown in Ex.5.57. Pitches of the C triad, (C,Eb/E), are emphasised, as both the local 'dominant' and overall tonic of the finale.

Bar 47 marks the return to F 'minor' (Ex.5.58) for the second part of this section (47-60), dominated by the piano and highly neo-Classical in conception (93). The dissonant semiquaver, opening gesture compares with bar 6 and the start of the first 'Très Rude'. In bar 49, the centre on F gives way to a conflict between the Dorian on G with Blues third: (G,A,Bb/B,C,D,E,F,G) and an F#/G# oscillation below, reminiscent of bar 77 of the first movement. On the large scale, this perpetuates the F# ('black-note') tritonal opposition to C ('white-note'). Part of the tension caused by the F# is due to its previous role as the dominant of B, in the first movement.Bars 51-54 (Ex.5.59) are predominantly scalic and sequential, the mode still F-based in bars 51-2, though Dorian in inflection. In bars 53-4, tension is heightened before the recapitulation, with F 'minor' pitches discernible above the chromatically excited bass.

Bars 55-6 are an elaboration of 49-50, with the lowest bass pitches: D#,E, perhaps regarded as Blues third in the overall context of C. The clarinet also supports D#/Eb, within the Aeolian on C. The four bars before the recapitulation (57-60: Ex.5.60) are loosely as 51-54, with neo-Baroque invertible counterpoint. The clarinet has a 'double-dotted' presentation of set (3-9), still in F minor. The dotted figure undergoes rhythmic diminution,also typical

(93) At surface level, ornamentation (including quintuplet groupings), staccato pitches and punctuating quaver rests are notable.

of Baroque practice. Finally, the placing of the two-bar trill, with its in-built suspense, should be acknowledged. Ex.5.60 summarises bars 57-60, with the G minor/major pivot (bar 58): chord II of F, becoming chord V of C. Parallel to this is the re-assertion of C# as V of F# (itself the dominant of B), in order to re-establish the C-F# conflict.

The recapitulation (bars 61-82) consists of eleven statements of bars 1-2, reaffirming the tonic. As in the opening, there is constant oscillation between 4/4 and 3/4, adding to the sense of forward momentum. The opening set,(4-Z29), is sounded on every first beat of 4/4. Such metrical alteration is rare in Milhaud's music of the early 1920s, with precedents in the seventh quartet (1925) and L'Abandon d'Ariane. A process of increasing elaboration operates through this repeated cadential formula, illustrated by the introduction of sextuplet groups and more octave doubling. In bars 73-6, the F 'minor' melody on clarinet, (stressing the subdominant relation in the recapitulation), typically combines with the cadential formula. The two-bar ending ('Sans ralentir': Ex.5.61) is similar to that of the first movement of the Dixtuor (1922), though executed here with more power and drama. The (C-F#) conflict, with Lydian and octatonic associations, is maintained up to the final, 'diatonic' bar of Ionian on C. Only then is the progression (b-C) complete.

CONCLUSION

The clarinet sonatina represents the culmination of Milhaud's chamber music of the 1920s, for reasons which will be detailed in Chapter 6: 'Synthesised Works'. Ex.5.62(a) and (b) show the linguistic consistency across the work, within fifth progressions and voice-leading descents. This mature chamber work operates within a sophisticated modality, rich in its varied allusiveness.

PART III.

CONCLUSIONS

From his adolescent years to the end of his life, he conceived his artistic creation as a total entity, the various elements of which could be drawn forth at any moment for whatever purpose (1).

(1) P.Collaer, ed. J. Galante, Darius Milhaud, p. 208.

CHAPTER 6

THE TOTAL ENTITY

ANALYTICAL CONCLUSIONS

From Analyses 1-8, it is clear that there are structural concepts and constructs which connect and develop across the complementary stylistic elements of Exploration, Brazilian music/Jazz and neo-Classicism. The most important common ground concerns modal collections and their typical constructs, at all structural levels. A free and flexible modality predominates far beyond considerations of 'polytonality' or 'atonality'. Milhaud's modality embraces 'ecclesiastical' modes: Ionian, Dorian, Phrygian, Lydian, Mixolydian, Aeolian and occasionally Hypophrygian, in authentic and sometimes plagal forms (2). It also embraces the chromatic scale, pentatonic, whole-tone and octatonic collections, Altered Mixolydian and Blues scale (3). Additionally, a mode may be combined with another (or indeed the same mode) at a different pitch. Although the chromatic scale is identified as an entity in itself, chromaticism (i.e. the limited introduction of foreign pitches in order to embellish any distinct collection) permeates all modes to varying degrees. Comprehensive use of the chromatic scale is rare and tends to be a localised phenomenon, though there are occasional extended examples, as across bars 25-36 in the finale of the Dixtuor d'Instruments à Vent: Analysis 3.

There are patterns (or distinctions) in the usage of different modal types across the three stylistic areas:

(2) Beyond considerations of authentic versus plagal forms, Milhaud's music commonly respects a scalic division into upper and lower, tetrachordal, segments, as illustrated by Analyses 1,2,5 and 6.

(3) This tendency to use octatonic and other 'exotic' scales is ultimately a product of French interest in Russian exoticism. Thus, Milhaud's name may be linked again with that of Stravinsky.

chromatic, pentatonic and octatonic collections and instances of Altered Mixolydian mode being most frequently encountered in exploratory works before 1922, e.g. in the sixth song of Machines Agricoles (4). Although each mode has a distinct identity, Milhaud's music 'modulates' freely in and out of different modes and utilises more nebulous regions between modes. There can be interaction, or pivotal linking, between modes. Milhaud's musical language frequently employs the pitch group (0,2,5) i.e. set (3-7) and the expanded (0,3,5,8), set (4-26), as a building unit for melodic and harmonic constructions. Significantly, this unit figures prominently in pentatonic and hexatonic collections (e.g. in Quatre Poèmes: Analysis 6) and in the Altered Mixolydian mode (5). The (0,2,5) and (0,3,5,8) units are relevant in a wide range of modal contexts and such areas of motivic connection are critical to the working of Milhaud's modality.

Use of the Blues and whole-tone collections is concentrated in the Brazilian/Jazz-inspired repertory, which is where the incorporation of Blues techniques reaches its developmental peak. However, use of Blues-type procedures seems a natural part of Milhaud's vocabulary, even before his Brazilian visit (i.e. incipient in the third quartet of 1916) and after his formal renouncement of Jazz in 1925 (e.g. in the 'opéras-minute' and clarinet sonatina). The most notable characteristic manifested by the Blues collection is that specific chromaticism: the melodic bending of third, seventh and occasionally sixth degrees. The main distinction between usage of Blues third in the Jazz repertory, epitomised by the 'Fugue' in La Création du Monde (6) and usage elsewhere,

(4) Refer back to Figure 3.2, in Chapter 3, p.101.
(5) For further detail, consult Figure 2.4: Pentatonic Model and Figure 2.8: Altered Mixolydian Mode, in the last section of Chapter 2, pp. 76, 82-3.
(6) Analysis 5A illustrates this point, pp.187-191.

is that authentic representation of Jazz favours the melodic (linear) Blues third, whereas stylised pastiche favours the harmonic (vertical) Blues third. Blues third is just one type of third relation.

The more sophisticated use of 'diatonic' (generally 'white-note') modes, including futher instances of the Altered Mixolydian (e.g. sixth and seventh string quartets), tends to be reserved for Milhaud's more neo-Classical works. Chromatic and pentatonic collections still have roles to play in the 'opéras-minute' and clarinet sonatina Op.100, though they are less prevalent in neo-Classical modality than before 1922.

A further area of common ground between the three stylistic tendencies lies in third relations at all structural levels, though the feature is most evident in the neo-Classical repertory. Apart from the Blues third phenomenon, third relations range from large-scale pitch relations across separate movements, as in the flute and clarinet sonatinas (7), through whole ternary structures with sections A and B a third apart. Third relations can involve Joseph Straus's axis of the seventh chord, e.g. (Eb,Gb,Bb; Gb,Bb,Db; Eb,Gb,Bb) in 'Ipanema',from Saudades do Brazil (Analysis 4). The seventh chordal axis represents common ground between the Blues collection (e.g. chord I7) and Altered Mixolydian mode (e.g. I7; VII7). The high profile of third relations is also governed by the very nature of the modal collections, particularly in the case of pentatonic and Altered Mixolydian modes. In the pentatonic collection, full triads only occur on chords VI and I, i.e. centres a minor third

(7) A summary of these relations is given in the first section of Chapter 5, p.232, with separate formal plans for the clarinet sonatina detailed in Analysis 8, pp. 271, 279, 282.

apart (8); and in the Altered Mixolydian the most frequently used sonorities are again VI7 and I6, e.g. Eb,G,B,D; G,B,D,Eb, in a mode on G. The chords of interaction between the Blues and octatonic (Model B) collections again stress third relations, with full triads occurring only on chords I and III; and VI and I, e.g. interaction within collections on D: (I) D,F/F#,A; (III) F/f#,A,C and (VI) B,D,f/F# (9).

At localised levels (foreground/middleground), third relations include passages of bi-modality at the third, (e.g. centres on F and A at the start of the fourth quartet), often assisted by balanced, uncluttered contrapuntal textures. This connects to the underlying concept of polarity. Melodic third progressions, at foreground level, are also used from the third quartet onwards. Such progressions have a high profile in the Triad Motive, especially prominent in neo-Classical contexts (e.g. chamber symphonies), since these tend to be the most strongly triadic.

The most characteristic means of formal extension across the three stylistic elements is ostinato and its Jazz equivalent, the riff, operating at foreground and middleground levels. Large-scale ostinati are employed most often in works of the early 1920s, as in the finale of the Dixtuor à Vent. In the Jazz context there are many examples, ranging from simple I-II-I chordal vamping in Trois Rag Caprices, and Saudades do Brazil to more extended patterns in the 'Final' of La Création du Monde.

Finally, concerning form, ternary structures (mentioned in connection with third relations), predominate across the

(8) Refer to Figure 2.4: Pentatonic Model, Collection 1: Chords, in Chapter 2, p.76.
(9) This follows on from Figure 2.7: Interaction of Blues and Octatonic Scales, in Chapter 2, p.81.

three stylistic elements. There are many variants of scale, proportion, number of sub-divisions, types of dove-tailing between sections and types of embellishment. Apart from these diverse ternary forms, extensively discussed in Part II, there is one formal device which should be acknowledged separately: fugue. The use of fugue extends from exploratory fugato exercises in the second movements of the second quartet (1914-15) and fourth quartet (1918: Analysis 1); through a similar type of fugato in 'La Lieuse' from Machines Agricoles (1919: Analysis 2), to fully worked-out fugue, such as the finale ('Etude') of the fourth chamber symphony (Dixtuor à Cordes, 1921). There are also important contemporary examples in the orchestral repertory, such as the third movement of Cinq Etudes Op.63, for piano and orchestra (1920), mentioned in Chapter 3. Milhaud's fascination with fugue continues to develop in the Jazz domain, e.g. second movement of La Création du Monde. The last illustration of the device in chamber music of the 1920s is the finale: 'Vif et gai' of the neo-Classical seventh quartet in Bb (1925).

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Several analytical means have proved effective in tackling Milhaud's early chamber music, some much more so than others. It would be tempting to conclude by advocating the consistent use of one approach to Milhaud's music. However, to do so prematurely would be neither scholarly nor realistic. The most widely applicable analytical means has been a flexible mixture of post-Schenkerian voice-leading (tending towards Salzerian models); supplemented by the basic tools of Forte's set-theoretic analysis. This has formed the basis of Analyses 1-8, though particular contexts have caused one method to be favoured almost to the exclusion of the other. The application of set-theory has produced some useful common sets across the analyses: most especially the Blues constructs (4-4) and (4-17), as well as

(4-7) in Analyses 3 and 8, and the seventh construct (4-27) in Analyses 3 and 4. Hexachordal sets have included (6-20) in Analyses 1 and 4, (6-Z29) in Analyses 4 and 8, and (6-30) in Analyses 3 and 4.

Next in frequency of application has been the adoption of scalic/modal models, with their partitioning, derived from van den Toorn's approach to octatonicism. Sometimes it was possible to implement van den Toorn's ideas directly, e.g. in attempting to distinguish between the Octatonic Models A and B in 'La Lieuse' from Machines Agricoles: Analysis 2. In general, Model A proved the most applicable for Milhaud's music, (in Analyses 1,2,7 and 8), supporting van den Toorn's view of Model A as the neo-Classical collection.

The modal models for Pentatonic, Altered Mixolydian and Blues collections were helpful in providing a structural framework. Relevant contexts for the first two scalic types tended to be more restricted and localised than those for the Blues collection. Distinguishing between five related Pentatonic Collections demonstrated that Milhaud made use of all the available variants, with a possible preference for Collection 1. The products of interaction between modes, such as between the Blues and Octatonic, and Altered Mixolydian and Octatonic were an interesting,if theoretical, consideration (10). Within modal partitioning, Jeremy Drake's historical concern to distinguish between authentic and plagal modal forms proved a useful refinement, demonstrated by analysis of the finale of the Dixtuor à Vent (Analysis 3) (11). It may be possible to invoke these models and partitionings more strongly in future analyses, though one should be aware of their limitations. Distinction has to be made between unordered and ordered pitch collections.

(10) Refer back to Figures 2.7 and 2.8, in Chapter 2, pp.81, 83.
(11) J. Drake, O.D.M., p.201.

Certain ideas were usefully derived from Milhaud's article: 'Polytonalité et Atonalité' and then applied to his music, in an attempt to relate theory and practice. The 'Factors aiding the Perception of Bi-modality' and localised 'Bi-modal Classification', (with combinations identified by 'dyad' sets), were practical ways of establishing norms of practice in Milhaud's music. Up to a point this approach is consistent with the valuable notion of pitch-polarity. However, the Bi-modal Classification could only prove its worth on a small-scale, as in the first song of Machines Agricoles (12) and was of limited usefulness in explaining the nature of Milhaud's language: inevitably more of a compositional than analytical aid.

Other ideas worked well in specific instances, but could not on present standing be said to be of general application to Milhaud's music. These include Meyer's concept of 'Implication-Realisation' and Joseph Straus's 'Pattern-Completion', which were most apposite for the finale of the Dixtuor à Vent (Analysis 3),involving a gradually increasing length of ostinato. In this context the idea of segments of a Chromatic Matrix also proved appropriate, though it was difficult to locate other passages which were treated so methodically (13). Another example of an analytical concept with limited application is the Hindemith/Neumeyer notion of Tension Theory. This proved illuminating within the small-scaled simplicity of the first of Quatre Poèmes (Analysis 6), but was less manageable or meaningful in more complex settings. On a larger scale, the Meyer/Keil idea of ascertaining the extent of deviation from typical Blues formations and practices worked nicely in the comparative Analysis 5B 1, but did not lend itself easily to more general application.

(12) Refer back to Chapter 3, p.107.
(13) The Chromatic Matrix is shown in Figure 2.5 of Chapter 2, p.78.

Analytical ideas concerned with proving the importance of third relations were well suited to Milhaud's music. This included Hindemith's notion of 'Indefinite Third Relation' and Straus's concept of the seventh axis as a means of articulating two triads a third apart, yet regarding them as a single entity. The concept was especially suitable in the context of the Blues scale (Analysis 4); but also had application for passages of Altered Mixolydian mode, e.g. (Eb,G,B; G,B,D) within a mode on G.

Finally, the idea of viewing dissonance and polarity as a positive structural construct, instead of overstating a rather weak, traditional unity, was refreshing. This notion stemmed from articles by and discussions with Arnold Whittall and the doctoral thesis of Michael Russ (14). It led to the observation of processes of chromatic complementation in the 'Funèbre' of the fourth quartet (Analysis 1) and in Scene V of L'Abandon d'Ariane (Analysis 7). Conversely, consideration of 'focused dissonance' also led to increased awareness of 'strategically placed consonance', within a mildly dissonant norm. This concept was especially useful in 'Ipanema' (Analysis 4), with its balanced consonances a tritone apart on Gb and C. The focus on dissonance and chromaticism (involving semitonal and tritonal relations) proved most relevant and productive in the exploratory contexts of Analyses 1-3. The concept of a balanced polarity also gave a credibility to localised bi-modality, (most applicable in Chapter 3). More generally, the notion of giving due weight to types of polarity (whilst investigating further the nature and role of dissonance) seems to offer considerable scope for future analysis of Milhaud's music.

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(14) For full references, consult Chapter 2, p.67, footnote 69; p.69, footnote 70.

STYLISTIC CONCLUSIONS

Part II sought to identify the components of Milhaud's music, in terms of the most distinctive stylistic elements and structural techniques. It was concerned with tracing the sources of these elements: Milhaud the apprentice, drawing on the music of his late-Romantic, or Impressionist predecessors, as well as starting to explore for himself; Milhaud the eclectic, attracted by popular music from the far reaches of his foreign travels and that from nearer home, within his native Provence; and, finally, Milhaud the neo-Classical purist, looking back to absolute music and techniques from the eighteenth-century.

There are two appropriate sets of images. The first, which has been used consistently through the dissertation, is of Collaer's 'elements' (initially late Romanticism, followed by Jazz and neo-Classicism) emerging from a 'melting-pot' (Exploration). These elements may be employed singly, or fused into 'alloys' of two or more elements, (possibly with modified physical properties), in terms of the 'chemical' imagery. The second set of images involves the three primary colours, which are the source of all that follows. They too may be employed either singly, or more commonly, in combination as a mixture, thus forming more subtle secondary tones. Initially, one might imagine an array of colours on the palette (Exploration), though one primary colour is strongest, representing the predominant late-Romantic style (e.g. of the early sonatas and string quartets). However, as early as 1917, a second primary colour is beginning to clarify on the palette: incipient neo-Classicism, manifested perhaps by the first chamber symphony. By 1918, the third and final colour appears - in the forms of L'Homme et son Désir, Le Boeuf sur le Toit (1919) and Saudades do Brazil (1920). By 1922, the first primary colour of late-Romanticism is fading and the latter two gaining in

strength. Milhaud's works of the 1920s are often a stylistic/technical mixture ('mélange' in Milhaud's parlance) of any two primary colours and occasionally of all three. This is both the attraction and complication of his music, and it is this mixture, or synthesis, which is the concern of the stylistic conclusions.

Before considering illustrations of the synthesis, it is worth reaffirming the justification for the basic approach of Part II, in identifying the sources and natures of the 'elements' or 'primary colours'. The stylistic elements selected can be differentiated, yet paradoxically, they are complementary. Collectively, the elements are representative of Milhaud's diverse output before 1930. The stylistic compartments have not been invoked dogmatically and difficulties in placing certain works have been openly discussed. Indeed, it was part of the exercise to ascertain the degree of tension set up between the technical apparatus of the dissertation and the music. Having said this, several works fitted comfortably into one stylistic compartment, e.g. Sauadades do Brazil in the Brazilian/Jazz compartment; the 'opéras-minute' and seventh quartet in the neo-Classical compartment. One cannot appreciate the subtle nature of the 'mélange', if one has not first considered the component parts, of which the work is a mixture. As with the common 'dictum', the whole is indeed greater than the sum of its parts. Having gained an understanding of those parts, it now remains to reassemble and restore a selection of works which have been dissected, whilst attempting to define the elusive qualities of the syntheses that constitute the 'whole'. This is the brief for this section of Chapter 6, to be achieved by reference to three works: one from each chapter of Part II.

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WORK 1: Juxtaposition of Stylistic Elements: Dixtuor d'Instruments à Vent

The Dixtuor d'Instruments à Vent (fifth chamber symphony) is a useful example of a work involving juxtaposition of all three stylistic elements identified in Part II. It is one of Milhaud's most radically experimental pieces, but is not a totally successful product. Many of the original ideas raised are worthy of further exploration and might have been the stepping stone to new areas of contrapuntal balance, equality and highly focused dissonance, within an atonal framework.The problem is that there are too many contrasting ideas and approaches within too short a time-span.

In Chapter 3, the Dixtuor à Vent was discussed as an exploratory work because of the high profile of chromaticism (including localised 12-note contexts) and dissonant pitch structures. However, from a freer perspective, one might regard each movement of the Dixtuor, as according, in turn, with the three stylistic elements. The opening movement would still belong largely to the early, exploratory element, with its biting semitonal oppositions, derived from chromaticism. The approach is decidedly motivic, involving small, semitonally-paired cells. By contrast, the second movement shows signs of incipient Blues third within its melodic process, especially in the bass clarinet line, and in that respect at least subscribes to the element of Brazilian/Jazz-inspiration. Moreover, some aspects of the finale (and first movement) owe much to the developing neo-Classicism. These include the compact scale of design, clear-cut sectionalised forms and 'light', contrapuntal textures reminiscent of concerto grosso - with balance between 'concertino' and 'ripieno'. Indeed, the whole notion of a set of chamber symphonies accords with a neo-Classical aesthetic.

One could go into more detail in this stylistic pursuit, but it would be unlikely to be meaningful. It is sufficient to stress that Milhaud is searching for a stylistic identity, but has not yet succeeded in balancing (or integrating) the different stylistic references. Hence the stipulation of 'juxtaposition', rather than 'synthesis'.

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WORK 2. Synthesis of Two Stylistic Elements: La Création du Monde

La Création du Monde provides an excellent example of synthesis: 'j'utilisai le style jazz sans reserve, le mêlant à un sentiment classique' (15). To all intents this is Milhaud's Jazz masterpiece and certainly the piece by which he is best known, usually with that association. However, any practising Jazz musician would assert that Milhaud's so-called assimilation of Jazz is still a far cry from the real, spontaneous art (16). In fact, composing for a classically trained ensemble, with the music written out in full, such a task would have been impossible. True Jazz exists only in improvised performance and Milhaud would have been the first to recognize this. Indeed, he was not attempting to 'compose' a genuine piece of Jazz: such would be a contradiction of terms. The work would probably have been far less successful and durable had he done so. He had previously composed pieces more in keeping with straight Jazz, such as Caramel Mou for small Jazz ensemble with voice, but such works have not captured the public imagination in the manner of La Création du Monde. In composing La Création as a ballet invoking the creation, visually - in terms of African primitivism - as well as

(15) D. Milhaud, M.V.H., p.125.
(16) See A. Hodeir, Jazz: its evolution and essence, p.250.

aurally, Milhaud must have intended a synthesis of Western and African/American negro styles from the start.

In addition to this cultural synthesis, there is that of the inherent, technical vocabularies of neo-Classicism and Jazz. Much discussion has already focused on the Jazz element as the more remarkable achievement of a classically trained composer and the neo-Classical features too have been acknowledged, particularly where they have a higher profile in the Suite de Concert version of the work. What remains is to stress the incongruity of some stylistic and technical juxtapositions, as well as the genuine organic synthesis, which is what gives La Création du Monde its charm. There is delightful incongruity in using fully developed fugue, the epitome of Baroque rigour and restraint, as the structural framework for one of Milhaud's most 'Bluesy' themes, itself probably derived from the music of W.C. Handy. The distorted 12-bar Blues structures 'battle' against a refined, classical ternary form, at background level. This is to stress the irreconcilable polarities, but of course La Création du Monde only works because some elements are genuinely fused. As discussed in the analytical conclusions, the high profile of third relations in Milhaud's handling of Jazz and neo-Classical styles provides some of the necessary common ground.

Stylistically, one also observes bizarre contrasts. On stage, ballet dancers trained in Europe's most exclusive 'schools' delight in role-play as savages, from exotic regions, which most could only hope to visit in their imagination. Sophisticated, Caucasian musicians also act out a role, giving a semblance of the freedom of the negro Jazz musician. In the Suite de Concert, the incongruity between the Parisian piano quintet acting out its Jazz role, in a tightly controlled neo-Classical framework, is striking. The audience who witnessed this 'rite', in the

spirit of Le Sacre of a decade earlier, also entered a fantasy world, far away from their ordered Parisian life-styles. The attraction and greatness of La Création lie in this superb 'mélange' of two worlds, and its main technical strength is due to the fact that Milhaud took his first-hand study of Jazz more seriously than most of his contemporaries (17). La Création du Monde is the Jazz prototype of the 1920s, with many attempted sequels. However, it is doubtful whether successors such as Ernst Krenek and Kurt Weill, with the possible exception of George Gershwin, had the same understanding and compositional skill within the elusive world of Jazz. Their works fall more readily into categories of pastiche or parody, rather than real assimilation by means of the Blues scale.

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WORK 3: The Clarinet Sonatina as the Culmination of Milhaud's Chamber Music before 1930

The clarinet sonatina represents the culmination of Milhaud's chamber music of the 1920s for several reasons. Most importantly, the work confirms the central status of modality, especially Lydian though also Phrygian. In support of modality at surface level, the sonatina shares use of the Triad Motive in its second movement, with most other chamber works selected for analysis.

Other features of the earlier 1920s include motivic sets operating harmonically and melodically (e.g. bars 88-95), ostinati (bars 53-6), localised bi-modality at the minor third (bars 72-6), melodic combination (bars 83-86) and 'substitute dominant' formations (bars 92-4). The mixture of dissonance and pure consonance persists in the conclusion of the first movement. With enharmonic modulation in the slow

(17) See the first sections of Chapters 1 and 4, pp.23,31 and 151,154-158, respectively. (See also Appendix 4.)

movement, the sonatina looks back to the late-Romantic, student compositions dating from the period of the First World War. Tritonal relations are still evident in the finale, with localised octatonic contexts using complementary segments: (F-B) and (C-F#), connecting with similar octatonic usage in the fourth quartet and Machines Agricoles. Although one may compare the clarinet and flute sonatinas, the strongest associations are with the Dixtuor à Vent, since the (b-C) semitonal progression occurs across both works. At a surface level, the (4-7) set connects the openings of both works (also found in L'Enlèvement d'Europe). The markings: 'Très Rude','Lent','Très Rude', are also similar to those of the Dixtuor. Thus something of the early, exploratory spirit persists in the clarinet sonatina.

The sonatina shows vestiges of Milhaud's interest in Jazz, with melodic and harmonic emphasis on the fifth scalic degree (e.g. the second subject of the first movement and ending of the 'Lent'). Limited instances of the Blues triad persist harmonically and melodically, as do syncopated minor third patterns (e.g. I, bars 53-56). The sixth scalic degree maintains a high profile, particularly in conjunction with chord I.Illustrations in the 'Lent' include the opening bass-pedal: VI-V (F-Eb), the modulation to the submediant (bars 7-8) and the ending: I-VI-V, (Ab-Fb-Eb), which neatly mirrors the (3-4) set:(B-G-F#) of the first movement.

In terms of neo-Classical refinement (towards a possible neo-Classical ideal), this sonatina is one of only two in the 1920s. The music is strongly centric, especially in the Ab-based 'Lent', with less bi-modal conflict than in earlier works. Apart from typical third relations, fifth progressions are prominent as dominant pedals (I, bars 77-82; opening of II). There is increased emphasis on repetition, literal and subtly varied, with the conclusion of the work using extensive re-iterated cadential formulae

(bars 61-72; 73-80). Melodic and harmonic sequences have a high profile (I, bars 20-24), especially in stylised, invertible counterpoint (III, bars 51-60). Triads transposed 'en bloc' are another syntactic feature. Two instances of modal practice seem to allude to Schubertian method: use of the tonic minor at the conclusion of the 'Lent' and stressing of the subdominant relation (Dorian on F) in the finale within C. The balance of two, contrasting subjects in the first two movements also suggests the re-emergence of aspects of classical sonata form; whilst at surface level, there are 'double-dotted' rhythms and rhythmic diminution, so typical of the Baroque (III, bars 57-8).

In addition to synthesis of elements of neo-Classicism, Jazz and early Exploration, the sonatina shows the stylistic development and refinement expected of a mature work in the late 1920s. This is the sense in which the work is greater than the sum of its component parts. There are more complex, larger-scale structures than hitherto; more subtle and developed ternary outlines; economy in the number of ideas, each of which is thoroughly pursued, evidenced by the cyclical aspect of this work (and of L'Abandon d'Ariane). Sections are neatly dove-tailed, as in the 'lead' into the second subject of the first movement (bar 35). Metrically there is a judicious flexibility, with alternating 4/4, 3/4 pattern in the finale (a similar technique to that used in the final scene of L'Abandon). Metre is also used in phrase expansion and contraction, as with the progression: 4/4, 5/4, 6/4; 5/4, 4/4 in the first movement (18).

At surface level, texture receives varied treatment, including full textures, with octave doublings in the piano part (III, bars 15-20). Attention is paid to dynamic, phrasing and expressive markings, including in the slow

(18) See for example bars 51-9.

movement the significant term: 'dramatique'. There are grand, rhetorical gestures surely affected by Milhaud's increased interest in opera in the later 1920s, (e.g. dissonant, wide-ranging piano figures in bars 24-27 of the finale). Dramatic use is made of silence, such as after the 'pianissimo' clarinet figure at bar 40. The ending of the finale is especially dramatic, aided by the varied phrase lengths, metrical change and full use of register at 'fortissimo' dynamic.

The clarinet sonatina is not necessarily indicative of Milhaud's overall compositional direction, but paves the way for further refinements, which lead to the highly neo-Classical and economical sonatas of the early to mid 1940s. The work is particularly interesting when viewed in the immediate context of the later 1920s and connected to the increasing involvement with musical drama. There is a heightened, dramatic effect in what proved to be Milhaud's last chamber work for five years. After the summer of 1927, Milhaud was diverted from the composition of chamber music by 'grand opéra' and went on to write some of his most successful works of that genre, including the universally acclaimed Christophe Colomb (1928).

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This perspective on three selected works has endeavoured to highlight: stylistic juxtaposition (in the Dixtuor à Vent); genuine synthesis of Jazz and neo-Classical elements (in La Création du Monde) and the sense in which a work is something more than the sum of its stylistic/technical component parts (clarinet sonatina). Thus we have a sense of the 'Total Entity', as suggested by Paul Collaer's statement, which was discussed in Chapter 1 and was used to head Part III.

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CHAPTER 7

THE WAY AHEAD

THE NEO-CLASSICAL IDEAL

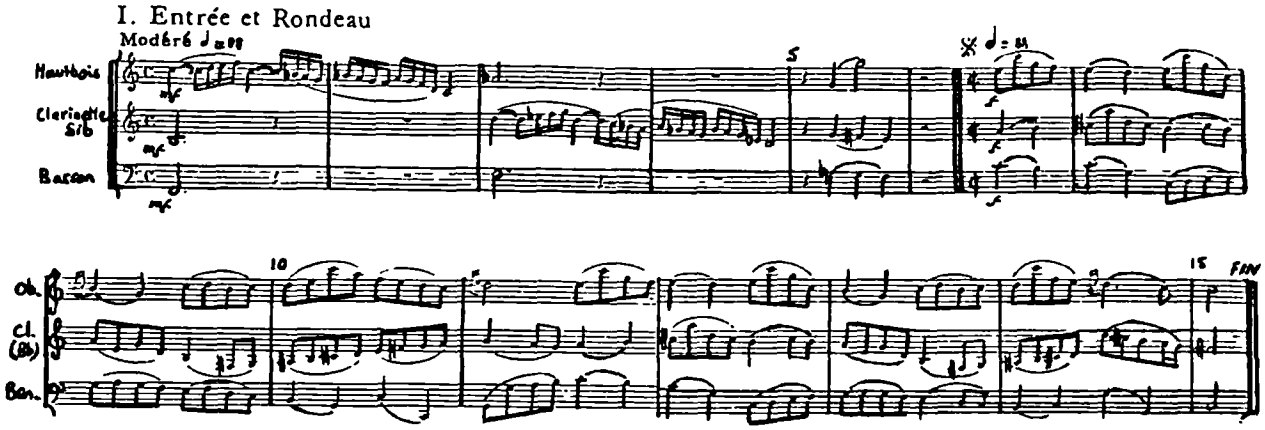
One area of Milhaud's chamber output seems to build on the developing neo-Classicism of the 1920s, striving for an ultimate 'neo-Classical' or more accurately 'neo-Baroque Ideal'. This is not Milhaud, the Jazz-inspired, 'popular' composer, but Milhaud, the purist, reinvoking the balance, simplicity and economy of an earlier epoch. Of course, such neo-Classicism is itself a specific type of eclecticism. In the domain of absolute chamber music are included the continuing string quartets (no.8. onwards), the woodwind works of the 1930s: the Suite d'après Corrette Op.161b (1937) and Suite: La Cheminée du Roi René Op.205 (1939), and works for mixed chamber ensemble, e.g. the Suite from Le Voyageur sans Bagages Op.157b (1936), for violin, clarinet and piano. However, it is perhaps in the highly neo-Classical string sonatas composed during the Second World War (especially 1941-45), that Milhaud comes closest to this elusive, neo-Classical goal.

Four works are mentioned in initial support of the 'neo-Classical Ideal'. Firstly, the Suite d'après Corrette provides an excellent example for the notion of striving towards a neo-Classical/Baroque Ideal. In the same way as Stravinsky's Pulcinella (1919) was supposedly composed 'after Pergolesi', so Milhaud's Suite (for oboe, clarinet and bassoon) is composed 'after' the French organist and composer, Michel Corrette (1709-95). The eight movements are titled in the late French Baroque manner: 'Entrée et Rondeau', 'Tambourin', 'Musette', 'Sérénade', 'Fanfare', 'Rondeau', 'Menuets' and 'Le Coucou'. The binary/ternary forms utilise Baroque conventions of 'Da Capo', 'Dal Segno'

and 'Fin'. The music is characterised by simplicity and brevity, with light contrapuntal textures and regular metre. The melodic/harmonic language is a modal one, centred on C.

The opening bars, consisting of the 'Entrée' and first section of the 'Rondeau', are quoted in Figure 7.1. Most notable is the imitation of the opening figure at the octave, between oboe and clarinet in Bb. The 'Rondeau' thrives on repeated/derived figures in typically monothematic, Baroque fashion. The regular phrasing consists of two - bar units, coupled into four-bar groupings, commencing at the half bar. One should acknowledge the pure consonance of the cadential 6/4 close within the Ionian mode on C at bar 15. The remainder of the 'Rondeau' (standard ABACA form) features further exact imitation at the octave and a close on the dominant, before the return to the sign.

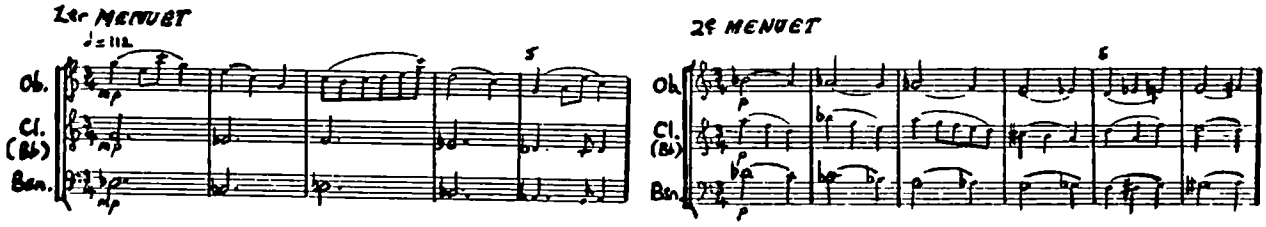
Figure 7.1 Suite d'après Corrette



In the openings of two of the three minuets, quoted in Figure 7.2, there is again striking simplicity in the unanimous four-bar phrasing of the triple metre, across the three 'voices'. All three of the minuets are rhythmically simple, using no note value shorter than a quaver. As in the

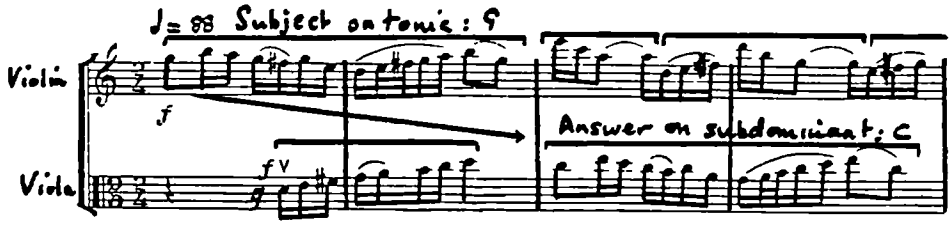
opening movement, dynamic (and other markings) are very sparse. The outer parts of the second minuet demonstrate that within an overall modality on C, chromaticism may still play an important role (just as in the music of J.S. Bach). The minuets are performed in standard Baroque fashion: i.e. minuet 1, minuet 2, minuet 1, minuet 3, minuet 1.

Figure 7.2 Suite d'après Corrette



In 1941, Milhaud wrote a Sonatine (Op.226) for violin and viola, in three movements, entitled: 'Décidé', 'Lent' and 'Vif'. The first movement features the exact imitation of a contrapuntal figure in the Ionian mode on G (played by violin), upon the subdominant two bars later (played by viola), as illustrated by Figure 7.3:

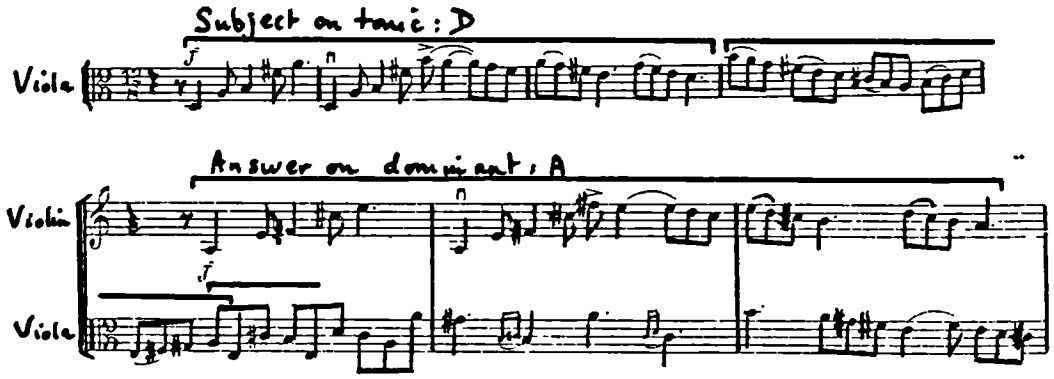
Figure 7.3 Sonatine, I.



The second movement consists of variations on an intricate ground bass, with a much more complex modal identity than the outer movements, using a Phrygian type mode on C, yet

concluding on an F major triad, in a gesture similar to the 'Tierce de Picardie'. The finale is a fugue, with the opening subject in the Ionian mode on D (played by viola), answered at the dominant (by violin), as shown in Figure 7.4. The language of the sonatina is indisputably modal, making much use of imitation and invertible counterpoint. Textures are florid and metrical/rhythmic patterns generally regular.

Figure 7.4 Sonatine, III.

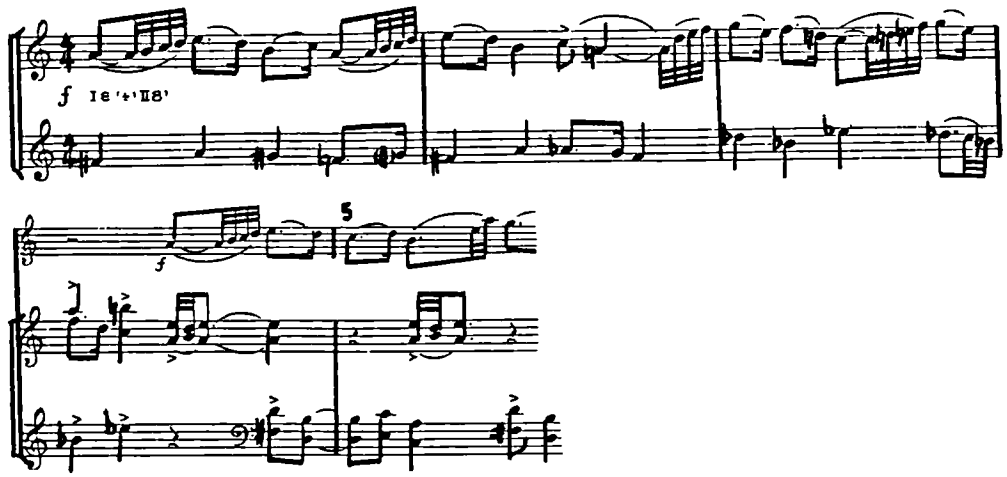


The ultimate example of the neo-Classical/Baroque Ideal is perhaps the Sonate pour Claveçin et Violon (Op.257), composed in 1945. Milhaud chooses to indicate the keyboard instrument first, rather as Mozart in his set of Sonatas for Piano with Violin. The three movements are entitled 'Nerveux', 'Calme' and 'Clair et Vif'. Once more, the language is a developed and sophisticated modality, with predominantly regular metre. In the opening movement, the imitative contrapuntal textures are intricate and complex, with distinctive dotted rhythms so typical of Baroque practice. The opening is quoted in Figure 7.5, overleaf.

Florid, anacrusic ascents of the scale dominate the texture, together with appoggiaturas, such as the (7-6) dissonance which opens bar 2. The indication of the stopping of the

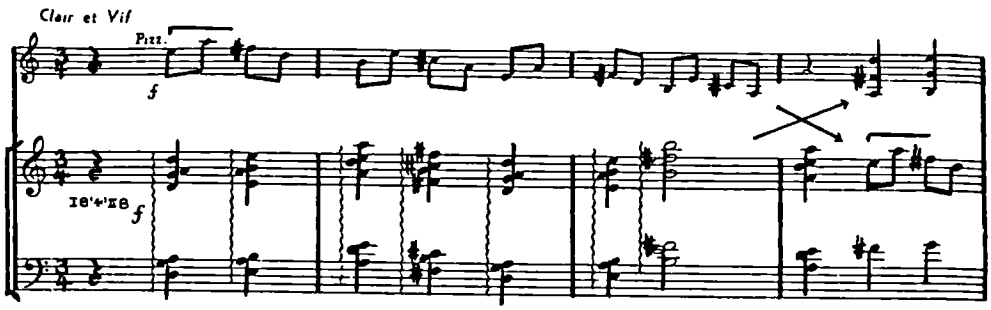
harpsichord manuals is a noteworthy 'mechanical' detail. The ensuing 'Calme' uses simpler textures, though still imitative. The modality is still a sophisticated blend of different allusions, once more giving a high profile to chromatic lines.

Figure 7.5 Sonate pour Claveçin et Violon, I.



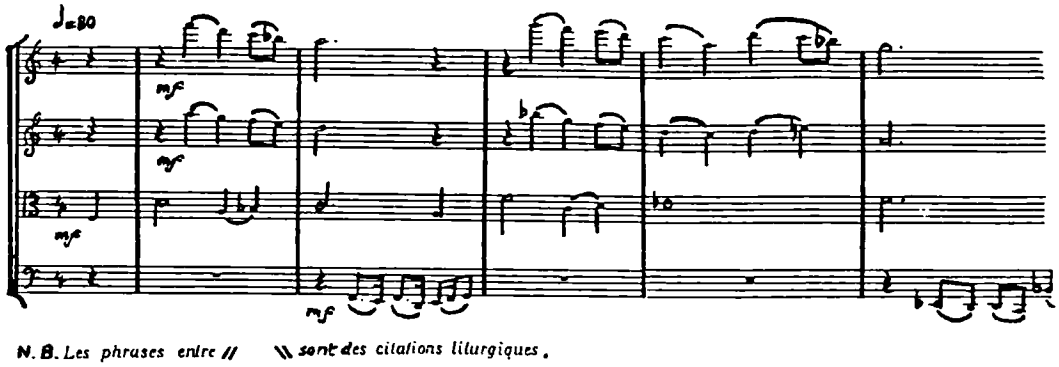
The opening of the finale, quoted in Figure 7.6, features an arpeggiated chordal accompaniment to a sequential quaver figure, which is imitated at pitch three bars later. This figure uses a hemiola effect, with two-beat units, across simple triple metre.

Figure 7.6 Sonate pour Claveçin et Violon, III.



Such neo-Classicism was important to the end of Milhaud's career: a claim supported by reference to his penultimate work, Etudes sur des thèmes liturgiques du Comtat Venaissin, for string quartet (Op.442), composed in Geneva in April, 1973. The movements are entitled: 'Modéré', 'Animé' and 'Modéré'. The piece, whose opening bars are quoted in Figure 7.7, has austere simplicity and spaciousness. Texture tends towards the homophonic, using sustained note-values. Dynamic and other markings are again sparse. The opening movement commences in the Aeolian on D, with Phrygian allusion and concludes in the Phrygian on A. The finale uses a Hypo-Ionian mode on G: (D,E,F#,G,A,B,C,D) and after a metrical change and 'modulation' ends in the Dorian on F.

Figure 7.7 Etudes sur des thèmes liturgiques, I.



The discussion of this work neatly paves the way to the section on 'eclectic balance', because the quartet not only looks back to the period of the Comtat Venaissin, but quotes Jewish liturgical phrases, denoted by brackets on the score and used as a 'cantus firmus' around which other lines are woven. Thus the work is also representative of Milhaud's increased interest in Jewish heritage and liturgy later in his life.

* * * * *

TOWARDS AN ECLECTIC BALANCE

Milhaud's chamber music of the 1920s exhibits important stylistic aspects which persist through his later music, whether chamber or large-scale orchestral/dramatic. Both the searching for neo-Classical refinement and a dramatic potential were already evident, together with a penchant for the rhythmic vivacity of popular dance, even after he had formally renounced his interest in Jazz. Essentially, Milhaud's later works reinforce and reiterate previously observed traits of style and structure. There is sometimes a sense of repetition of well-tested formulae, without the originality, wit and vigour that were his hall-marks in the 1920s. However, there are some later compositions still imbued with the spirit of experimentation (1). Thus I consider that the early chamber music constitutes a representative guide to Milhaud's compositional approach and that the seeds of his later development were sown in the formative years: 1917-27. The remainder of this chapter attempts to justify this view.

Drake sees a strong correspondence between Milhaud's first and third periods, (1911-1930) and (1950-1973), though he finds less common ground with the middle period (1930-1950) (2). Even so, Milhaud's characteristics of the 1920s are not entirely suppressed. Continuity can be upset for 'dramatic expression', as a development of a growing tendency in the late 1920s, e.g. in the clarinet sonatina. 'Inflectional polyvalency' persists, though it is less obvious due to more rapid modal changes.

In the late period, Milhaud returned to the small ensembles (and short formal sections) of the 1920s and unusual (non-homogeneous) instrumental groupings: Concert de Chambre

(1) See p.316 for comments on later aleatoric pieces.
(2) J. Drake, O.D.M., Chapter 15, p. 318 ff.

(1961), Suite de Sonnets (1963) and Adieu (1964) (3). Drake remarks on increased use of counterpoint, though there is no return to the early ostinati. He observes a more subtle 'poly-modality' than that used, for instance, in the fourth chamber symphony (1921). The rate of modal change is faster than in the 1920s,coupled with more incidental chromaticism, false relation and 'inflectional polyvalency' (4), as in the string septet. In the late works, Drake sees a true balance between the horizontal and vertical, and believes that 'even more so than in the 1920s, melodic development lies at the heart of Milhaud's formal structures' (5). He views the slow movements as possibly 'the chief glory of Milhaud's final period style' (6); I suggest that they are also amongst his finest achievements of the 1920s.

Apart from the neo-Classical/Baroque products, especially of the early 1940s, most of Milhaud's music involves juxtaposition or a synthesis of eclectic elements (Latin American allusions, Jazz, American themes, Provençal folksong and Jewish liturgical music). This stylistic 'mélange' enhances and characterises the neo-Classical 'core' element. Between the various elements there exists a delicate, and carefully gauged, 'eclectic balance'. Thus Paul Collaer's comment (7), regarding the 'total entity', is relevant both in terms of Milhaud's output of the 1920s (discussed in Chapter 6) and his later output, beyond 1930 (the subject of Chapter 7). Collaer further supports my idea of an eclectic balance, of complementary elements already revealed by the 1920s, when he states that 'his [Milhaud's] music does not follow any chronological path of development' (8).

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(3) J. Drake, op. cit., Chapter 19, p.362 ff.
(4) Op. cit., p.365.
(5) Op. cit., p.367.
(6) Op. cit., p.370.
(7) Consult pp.32, 288.
(8) P. Collaer, op. cit., p.208.

The captivating sound of Latin America is reinvoked, albeit more occasionally, beyond 1930, a conviction supported by Drake towards the end of his discussion of the middle period operas. Bolivar (incidental music: 1935-36, opera: 1943), the third of the trilogy which began with L'Homme et son Désir, and continued with Christophe Colomb, owes much to that source.

During his years in the United States after 1940, Milhaud composed several works, which in name at least, were inspired by his new surroundings, whilst maintaining the neo-Classical 'core'. The Opus Americanum no.2 (1940) is followed by the unpublished Mills Fanfare (1941), as a tribute to his newly adopted College. Later in the 1940s, he wrote two pieces for solo piano: Carnaval à la Nouvelle Orleans (1947) (New Orleans being the source of his original Jazz inspiration) and the delighfully titled:Kentuckiana(!) (1948). The American-inspired piano repertory continues into the late period with Le Globe Trotter (1957), presumably another somewhat wry reference to his early interest in the Jazz of Harlem. The movements are entitled: 'France', 'Portugal', 'Italie', 'Etats-Unis', 'Mexico' and 'Brésil'. Other pieces such as the Aspen Serenade (1957) reaffirm Milhaud's early interest in 'poly-tonality' (c.1916-22). In 1962, still conscious of his foreign status, he composed A Frenchman in New York, an obvious allusion to Gershwin's An American in Paris(!); whilst on Kennedy's assassination, he produced his own tribute: Meûtre d'un grand Chef d'Etat (1963). Three works were inspired by particular cities: Stanford Serenade (1969), Music for Boston (1965) and Musique pour San Francisco (1971). In the neo-Classical spirit, several pieces were written to be performed by various ensembles, dependent on availability. The Stanford Serenade and Music for Boston were composed for solo oboe and violin respectively, with orchestra, but can be performed in chamber ensemble versions.

The distinctive sound of Provence gains in intensity in the years beyond 1930. Milhaud's consciousness of his French roots grew stronger during his period of enforced exile in the United States: even the so-called 'American' works often owe much more to inspiration from Provence. In 1936, Milhaud composed his Suite Provençale, a blend of neo-Classicism and folk-song. During the years in the United States, this expression adopts a nationalist identity, as in the Suite Française for Band (1944), with a later return to the Midi in the Ouverture Meditérranéenne (1953). Many works which do not make the acknowledgment in the title are nevertheless imbued with that vivacious, sometimes wistful, Mediterranean lyricism that is so much a part of Milhaud's music.

Apart from the national expression through stylised folk-song, the other important aspect of Milhaud's make-up, surfacing strongly every few years, is his awareness of his Jewish heritage. The religious fervour and commitment definitely grow more intense in Milhaud's later oeuvre; whereas, in the 1920s, religious music was more of a peripheral aspect. Two large-scale choral/orchestral works, from the middle and late periods, dominate the religious output, the Service Sacré (1947) and Ani Maamin (1973): both perhaps more Romantic than neo-Classical in their orientation. Other works for soloists, chorus and organ are found in the middle period, including Borchou; Schema Israël (1944), Kaddisch (1945), together with a solo piano piece: Le Candélabre à Sept Branches (1951), and the large-scale opera David (1952-3).

Additionally, there is continuing interest in the dramatic perspective which had emerged in the 1920s with Milhaud's chamber operas on classical Greek mythology. Throughout his long career, Milhaud was fascinated by drama, opera and music-theatre. The 1930s especially saw much incidental music for Shakespearian plays: Jules César (1936), Romeo et

Juliette and Macbeth, both in 1937. Later, in the 1950s, he began a work entitled simply: Musique de Théâtre, for band, published in 1970.

The only other area to emphasise is Milhaud's renewal of interest in experimental styles in the 1960s, still loosely associated with his neo-Classicism. The return to aleatoric, or 'chance', music occurred in 1962 with the Suite de Quatrain, reinforced in 1964 by the Septuor à Cordes, for 2 violins, 2 violas, 2 'cellos and a five-string double-bass. The second movement is entitled: 'Etude de Hasard Dirigé' ('Study in Controlled Chance'), sounding almost contradictory. Milhaud stipulates that musical phrases between two particular signs should be repeated for the indicated number of seconds, after which the player should move on, even if this is part way through the previous phrase. The passage during which the player should repeat material is indicated by a wavy line. The composer advocates that 'there should be a sudden break, then attack what follows'. Each bar has the time value of a second; whilst the free parts are always read from left to right, so as to correspond with the measured passages. Despite its originality, this movement represents only a slight development of the concept used so strikingly in Cocktail (1921),for voice and three clarinets.

Thus the decade of the 1920s did sow the seeds for much of Milhaud's later music. Its importance cannot be over stressed. The eclectic balance, which exists beyond the neo-Classical 'core', is probably best expressed by the composer himself:

> Je suis un Français de Provence et de religion israélite (9).

* * * * *

(9) 'I am a Frenchman from Provence, and by religion, a Jew.' D. Milhaud, M.V.H., p.9.

FINAL REMARKS

The final view of Milhaud is as a Mediterranean modal melodist, who always maintained that he composed polytonally (10). His modal style is surprisingly consistent, across a varied and large output. Structurally, his music reveals numerous variants on ternary form. At surface level, his orchestration and use of timbre is colourful and distinctive. His music is imbued with great vigour in fast movements, yet with great sensitivity in slow, central movements. Milhaud represents a rare example of a composer who utilised a neo-Classical idiom throughout most of his compositional life, comparable to a point with Stravinsky and Hindemith. He looks back to the Classical craft of composition, refined and rarely overtly emotional and yet he was a pioneer especially in assimilating Jazz within a 'Classical' context. Although Milhaud can be criticised for the sheer quantity of his output (up to Op.443!) and the resultant unevenness of quality, this does not detract from the undeniable merits of many works, amongst them several masterpieces, including, before 1930, L'Homme et son Désir, La Création du Monde, Les Malheurs d'Orphée and Christophe Colomb.

In addition to composing and conducting, Milhaud (like Hindemith) was a respected teacher, at the Paris Conservatoire and Mills College, Oakland, California. This important dimension needs at least to be acknowledged in terms of 'The Way Ahead'. Milhaud taught several students who went on to pursue successful careers in composition, though none has continued his style directly. At the Paris Conservatoire, he taught Iannis Xenakis (b.1922), Milko Kelemen (b.1924), Gyorgy Kurtág (b.1926), Gilbert Amy (1936) and Jean-Claude Eloy (b.1938); and at Mills College, Charles

(10) J. Drake, op. cit., p.221.

Jones (b.1910), William Bolcom, William O. Smith (b.1926), Robert Moran (b.1937), David Del Tredici (b.1937) and the Japanese composer, Sadao Bekku. The best known of his American students is undoubtedly Steve Reich (b.1936), who like Robert Moran was also taught by Berio. Reich might be seen as the composer who most nearly continues Milhaud's musical philosophy: the adherence to a type of modality, mosaic-like repeated patterns in minimalist fashion and the belief that music should be accessible, appealing and often educational.

Ultimately, Milhaud was a man of his time, in keeping with the Parisian musical aesthetic of the 1920s. He offers us an increased understanding of those colourful and attractive years, both through his music and his autobiography. His music exhibits the fashionable frivolity of the 1920s, but also possesses a far more serious and pensive aspect. It is to be hoped that in 1992, the year of the centenary of his birth, Milhaud's music may receive the greater attention that I consider it merits.

* * * * *

At least three areas of Milhaud's output merit future research. The first is his Middle-Period chamber music, specifically the sonatas of the early to mid 1940s: the collection of works which I assert most nearly approaches the 'neo-Classical/Baroque Ideal', a claim which needs now to be substantiated by detailed analysis. A second area involves further research on the twelve Symphonies for Large Orchestra (1939-1963), already the subject of a thorough, though conventional, analytical dissertation by Robert Swickard (11). The final area involves analysis of either

(11) R.J. Swickard, The Symphonies of Darius Milhaud: An Historical Perspective and Critical Study of their Musical Content, Style and Form, Ph.D. diss., University of California, Los Angeles, 1973.

selected works from the rich repertories for soloist and orchestra, or the large-scale choral/orchestral works. However, I am convinced that conclusions on the main points of style and structure would be largely in agreement with those produced by a study of chamber music in the 1920s.

It is hoped that the approach adopted in this dissertation may be relevant in a wider neo-Classical context. The study has provided ideas for future study within the domains of modality, localised bi-modality and Blues-scale formations. Beyond Milhaud's music, the classification of types of localised bi-modality, and the search for a modal resultant from the encounter of contrapuntal lines, may help in analysing the music of other so-called 'poly-tonalists', such as Charles Ives.

It seems that little analysis has attempted to relate Jazz-derived works to a Blues-scale and formal framework. One could pursue further the Blues-scale model (as a background structure), partitioned into symmetrical tetrachords and seventh chords, rather as did van den Toorn with the octatonic collection in Stravinsky's music. By these means, one could produce detailed analyses of various Jazz-inspired works, ascertaining the structural extent of the Jazz 'language' and the 'modus operandi'. Satie's Parade (1917), Stravinsky's Rag-time for 11 Instruments (1919) and Gershwin's Rhapsody in Blue (1924) seem fruitful subjects for such experimentation.

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BIBLIOGRAPHY

The bibliography is ordered alphabetically by author's surname and, within a given author, is chronological by date of publication. Works of joint authorship are entered under the first-named author. The bibliography gives full references (including publisher) for all works cited in the text (usually in footnotes). It also contains selected material which was studied as part of the research, and which influenced the writing of the dissertation, but is not actually cited in the text. This includes dissertations held at the Université de Paris-Sorbonne and some American universities, as well as various biographies of Milhaud.

BASKERVILLE, David R., Jazz influence on Art Music to Mid-century, Ph.D. diss., University of California, Los Angeles, 1965.

BECK, Georges, Darius Milhaud, Etude suivie du catalogue complet de son oeuvre et discographie, Paris (Heugel), 1949, supplement 1956.

BENT, Ian & DRABKIN, William, Analysis, The New Grove Handbooks in Music, London (Macmillan), 1987.

BERENDT, Joachim E., 'The Elements of Jazz', The Jazz Book, tr. H. & B. Bredigkeit, New York (Granada), 1953, rp. 1983, pp.175-189.

BERGER, Arthur W., 'Problems of Pitch Organisation in Stravinsky', Perspectives of New Music, vol.2, no.1, Fall-Winter 1963,pp.11-42.

BLOM, Eric, 'Darius Milhaud', in Grove's Dictionary of Music & Musicians, vol.5, London (Macmillan), 5th ed. 1954, pp.758-766.

BOBBITT, Richard B., The Harmonic Idiom in the Works of 'Les Six', Ph.D. diss., University of Boston, 1963.

CHERRY, Paul Wyman, The String Quartets of Darius Milhaud, Ph.D. diss. Musicology, University of Colorado, at Boulder, 1980.

COBBETT, William W., Cyclopedic Survey of Chamber Music, London (O.U.P.), 1929.

COLLAER, Paul, Darius Milhaud, Paris, Geneva (Editions Slatkine), 1982.

----- Darius Milhaud, tr./ed. Jane Galante, San Francisco (San Francisco Press), London (Macmillan), 1988.

COLLET, Henri, 'Les 5 Russes, les 6 Français et Erik Satie, la musique chez soi', Commoedia, 16 January 1920.

COOPER, Martin, French Music from the Death of Berlioz to the Death of Fauré, London (O.U.P.), 1951.

CRAFT, Robert, Stravinsky: Chronicle of a Friendship 1948-1971, London (Gollancz), 1972.

CRICHTON, Ronald, 'Obituary: Darius Milhaud', Musical Times, 114, 1974, p.684.

DANIEL, Keith W., 'A Preliminary Investigation of pitch-class set analysis in the atonal and polytonal works of Milhaud and Poulenc', In Theory Only 6, 1982, pp.22-48.

DRAKE, Jeremy, The Operas of Darius Milhaud, New York, London (Garland Press), 1989.

DUNSBY, Jonathan, & WHITTALL, Arnold, Music Analysis in Theory and Practice, London (Faber), 1988.

EVANS, Edwin, 'Milhaud', in Cyclopedic Survey of Chamber Music, by William W. Cobbett, London (O.U.P.), 1929.

FERRARI, Gustave, 'Xavier Leroux', in The New Grove Dictionary of Music and Musicians, vol.10, ed. Stanley Sadie, London (Macmillan), 1980, p.686.

FORTE, Allen, The Structure of Atonal Music, New Haven (Yale University Press), 1973, rp. 1979.

----- 'Ives and Atonality', in An Ives Celebration, ed. H. Wiley Hitchcock, Vivian Perlis, Urbana (University of Illinois Press), 1977, pp.185-6.

----- & GILBERT, Stephen E., Introduction to Schenkerian Analysis, New York (Norton), 1982.

----- 'Liszt's Experimental Idiom and Music of the Early Twentieth Century', 19th-Century Music, X/3, Spring 1987, pp.209-228.

----- 'New Approaches to the Linear Analysis of Music', Journal of the American Musicological Society, Spring 1988, pp.315-348.

GRIFFITH, Paul, The String Quartet, London (Thames & Hudson), 1983.

----- 'Les Six', in The New Grove, vol. 17, ed. Stanley Sadie, London (Macmillan), 1980, pp.358-9.

GUT, Serge; PISTONE, Danièle, La Musique de Chambre en France de 1870 à 1918, Paris (Champion), 1978.

HARDING, James, The Ox on the Roof: scenes from musical life in Paris in the twenties, New York (Da Capo Press), 1972.

HARRISON, Max, 'Jazz', in The New Grove, vol. 9, ed. Stanley Sadie, London (Macmillan), 1980, pp.561-579.

HASTY, Christopher F., 'Phrase formation in Post-tonal Music', Journal of Music Theory, 28, 1984, pp.167-190.

HAYES, Malcolm, 'Music Review: Machines Agricoles', The Listener, 6 February 1986, p.41.

----- 'Music Review: The Harlequin Years', The Listener, 3 April 1986, p.41.

HELM, Everett, 'Darius Milhaud: A Personal Reminiscence', Music Review, November 1976, p.301.

HINDEMITH, Paul, The Craft of Musical Composition, I, Theoretical Part, tr. Mendel, Mainz, London (Schott), New York (Associated Music Publishers), 1942, 4th ed. 1970.

----- A Composer's World, Cambridge, Mass. (Harvard University Press), 1952.

HODEIR, André, Jazz: its evolution and essence,tr. D.Noakes, London (Jazz Book Club), 1958.

HURARD-VITARD, Evelyn, Le Groupe des six, ou le matin d'un jour de fête, 2 vols., Th. lèttres, Paris, 1973.

JONES, Charles, 'Darius Milhaud', in Dictionary of Twentieth Century Music, ed. John Vinton, London (Thames & Hudson), 1974, pp. 487-8.

KAY, Norman, Review of Notes without Music, Music and Musicians 19, November 1970, p.72.

KEIL, Charles, Urban Blues, Chicago (University of Chicago Press), 1969.

LAYTON, Robert, 'Milhaud String Quartets.' Review of recording, Gramophone, January 1986, pp.943-4.

LEE, Edward, Jazz: An Introduction, London (Stanmore Press), 1972.

LOCKSPEISER, Edward, 'French Chamber Music', in Chamber Music, ed. Alec Robertson, London (Pelican), 1958.

LOFT, Abram, Violin & Keyboard: The Duo Repertoire, II, From Beethoven to the Present, New York (Grossman), 1973.

LOUVIER, Alain, 'Gédalge', in The New Grove, vol. 7, ed. Stanley Sadie, London (Macmillan), 1980, pp.213-4.

MASON, Colin, 'The Chamber Music of Darius Milhaud', Music Quarterly XLIII, July 1957, pp.326-341.

MATTHEW-WALKER, Robert, 'Milhaud's Jewish Consciousness', Music and Musicians, November 1984, p.14.

----- 'Milhaud's Les Malheurs d'Orphée', Music and Musicians, November 1984, p.16.

McCARTHY, Peter J., The Sonatas of Darius Milhaud, Ph.D. diss. Musicology, Catholic University, 1972.

MELLERS, Wilfred, 'Polymorphous celebrations', Review of Darius Milhaud, by Collaer/Galante, Times Literary Supplement, 30 June-6 July 1989, p.717.

MESSING, Scott, Neo-classicism in Music (From the Genesis of the Concept through the Schoenberg/Stravinsky Polemic), Ann Arbor (U.M.I. Research Press), 1988.

MEYER, Leonard B., Emotion and Meaning in Music, Chicago (University of Chicago Press), 1956, rp. 1961.

----- Explaining Music: Essays and Explorations, Berkeley (University of California Press), 1973, rp. 1978.

MIGOT, Georges, '4e Quatuor à Cordes', La Revue Musicale, II, no.4., February 1921, p.167.

MILHAUD, Darius, Various Writings. See separate listing.

MONELLE, Raymond, 'Le Pauvre Matelot (Milhaud) and Dido and Aeneas', review in Opera, May 1986, pp.596-7.

MORRILL, George Dexter, Contrapuntal Polytonality in the Early Music of Darius Milhaud, D.M.A. diss., Cornell University, 1970.

MUNDY, Simon, '1920s Paris', Classical Music, 8 February 1986, p.19.

NEUMEYER David, Paul Hindemith, New Haven (Composers of the Twentieth Century Series: Yale University Press), 1986.

NICHOLS, Roger, 'Cock and Harlequin', The Listener, 30 January 1986, p.30.

----- 'Poulenc', in The New Grove, vol. 15, ed. Stanley Sadie, London (Macmillan), 1980, pp.163-9.

ORLEDGE, Robert, Charles Koechlin: His Life and Works, vol.1, London, New York (Contemporary Music Study Series: Harwood), 1989.

OSTRANSKY, Leroy, The Anatomy of Jazz, Seattle (University of Washington Press), 1960.

PALMER, Christopher, 'Milhaud at 80', Musical Times 113, September 1972, pp.861-3.
----- Darius Milhaud, London (Faber), 1976.
----- 'Darius Milhaud', in The New Grove, vol. 12, ed. Stanley Sadie, London (Macmillan), 1980, pp.305-310.

PARKS, Richard S., The Music of Claude Debussy, New Haven (Composers of the Twentieth Century Series: Yale University Press), 1989.

PHILIP, Robert, 'Pro Arte Quartet',in The New Grove, vol.15, ed.Stanley Sadie, London (Macmillan), 1980, pp.277-8.

ROSTAND, Claude, Darius Milhaud: Entretiens avec Claude Rostand, Paris (Julliard), 1952.
----- 'The Operas of Darius Milhaud', Tempo 19, Spring 1951, pp.23-28.
ROY, Jean, Darius Milhaud, Paris (Seghers), 1968.

RUSS, Michael, Four Studies in the Analysis of Post-Tonal Music, Ph.D. diss., University of Ulster, 1985.

SALTER, Lionel, 'Milhaud's Christophe Colomb', Musical Times, 114, May 1973, pp.483-4.

SALZER, Felix, Structural Hearing: Tonal Coherence in Music, Toronto, London (Dover), 1952, rp. 1982.

SARGEANT, Winthrop, Jazz; Hot & Hybrid, New York, London, (The Jazz Book Club), 1938, rev. 1946, rp. 1959.

SCHENKER, Heinrich, Free Composition, (Der freie Satz), tr./ed. Ernst Oster, Vienna (Universal Edition), New York, (Longman), 1935, rev. ed. 1956, rp. 1979.

----- Five Graphic Music Analyses, (Introduction by Felix Salzer), New York, London (Dover), 1933, 2nd ed. 1969.

SCHLOEZER, Boris de, 'Darius Milhaud', La Revue Musicale, VI, March 1925, pp.251-275.

SCHULLER, Gunther, Early Jazz: Its Roots and Musical Development, New York, London (O.U.P.), 1968.

----- 'Rags, the Classics, and Jazz', in Ragtime, Its History, Composers and Music, ed. John Edward Hasse, London (Macmillan), 1985, p.79ff.

SHATTUCK, Roger, The Banquet Years: The origin of the Avant Garde in France: 1885-World War I, London (Cape), 1969.

SHEAD, Richard, Music in the 1920s, London (Duckworth), 1976.

SILVA, Sagramour Lopes da, L'aspect brésilien dans l'oeuvre de Darius Milhaud, maîtrise, Université de Paris-Sorbonne, Paris, 1982.

STRAUS, Joseph, 'A Principle of Voice-leading in Stravinsky', Music Theory Spectrum 4, 1982,pp.106-124.

----- 'Stravinsky's Tonal Axis', J.M.T. 26, 1982, p.283 ff.

----- Review of van den Toorn's, The Music of Igor Stravinsky, J.M.T. 28, 1984, pp.129-134.

----- 'The Problem of Prolongation in Post-Tonal Music', J.M.T., 31, Spring 1987, pp.1-21.

STRAVINSKY, Igor, An Autobiography, New York (Simon & Schuster), 1936, rev. 1975.

----- Poetics of Music, Cambridge, Massachusetts (Harvard University Press), 1942; tr. Arthur Knodel & Ingolf Dahl, London (O.U.P.), 1947.

----- & CRAFT, Robert, Expositions and Developments, New York (Doubleday & Co.), 1962.

STUART, Walter, Encyclopedia of Improvisation, New York (Charles Colin), 1972.

SWICKARD, Ralph James, The Symphonies of Darius Milhaud: An Historical Perspective and Critical Study of their Musical Content, Style and Form, Ph.D. diss. Musicology,University of California,Los Angeles,1973.

TARUSKIN, Richard, ' "Chez Pétrouchka": Harmony and Tonality chez Stravinsky', 19th-Century Music, X/3, Spring 1987, pp.265-286.

TIRRO, Frank, 'Jazz', in Dictionary of Twentieth Century Music, ed. John Vinton, London (Thames & Hudson), 1974, pp.367-376.

VAN DEN TOORN, Pieter C., The Music of Igor Stravinsky, New Haven (Composers of the Twentieth Century Series: Yale University Press), 1983.

ULANOV, Barry, A Handbook of Jazz, London (Hutchinson),1958.

WHITE, Eric Walter, 'Stravinsky', in The New Grove, vol. 18, ed. Stanley Sadie, London (Macmillan), 1980, pp.240-265.

WHITTALL, Arnold, Music since the First World War, London (Dent), 1977, rp. 1983.

----- 'Music Analysis as Human Science? Le Sacre du Printemps in Theory and Practice', Music Analysis, 1:1, 1982, pp.33-53.

----- 'Neo-classical', in The New Grove, vol.13, ed. Stanley Sadie, London (Macmillan), 1980, pp.104-5.

----- 'The Theorist's Sense of History: Concepts of Contemporaneity in Composition and Analysis', Journal of the R.M.A., vol. 112/1, 1986-7, pp.1-20.

----- 'Review-Survey: Some Recent Writings on Stravinsky', Music Analysis 8:1-2, 1989, pp.169-170.

ZINAR, Ruth, Greek Tragedy in Theatre Pieces of Stravinsky and Milhaud, Ph.D. diss. Music Education, New York University, 1968.

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APPENDIX 1

MILHAUD'S OWN WRITINGS (CONSULTED FOR STUDY)

MAIN WORKS:

'Polytonalité et Atonalité', La Revue Musicale, IV, February 1923, pp.29-44; tr. 'Polytonality and Atonality', Pro Musica Quarterly, New York, October 1924.

Etudes, in series La Musique Moderne, dir. A. Coeuroy, Paris (Editions Claude Aveline), 1927.

Notes Sans Musique, Paris (Julliard), 1949; tr. Donald Evans, London (Dobson), 1952, American ed./tr. Ogden, New York (Knopf), 1953, rp. New York (Da Capo), 1970.; Rev. & enl. as Ma Vie Heureuse, Paris (Belfond), 1973/4, rp. 1987.

Notes sur la Musique: Essais et Chroniques, ed. J. Drake, Paris (Flammarion), 1982 (Milhaud's collected writings).

OTHER WORKS:

1. 'La Musique au Brésil', Chroniques et Notes, La Revue Musicale, I, 1920, pp.60-61.

2. 'Arthur Honegger', The Chesterian, n.s. 19, December 1921, pp.65-69.

3. 'The Evolution of Modern Music in Paris and Vienna', North American Review 217, April 1923, pp.544-554, also Franco-American Musical Society Bulletin, I, September 1923, pp.8-16.

4. 'Hommage à André Gédalge', La Revue Musicale, VII, 1926.

5. 'Farewell to Diaghilev', Modern Music VII, no.1, December-January 1929, pp.12-15.

6. 'Experimenting with sound film', Modern Music VII, February-March 1930, pp.11-14.

7. 'A Propos d'une première audition d'Igor Stravinsky', Numéro Spéciale de la Revue Musicale: Igor Stravinsky, XX, no.191, May-June 1939, p.309.

8. Notes sur Erik Satie, New York, (Edition de la Maison Française), 1943/46.

9. 'French Music between two Wars', Circle 7-8, 1946, pp.106-108.

10. Preface to Poetics of Music, by I. Stravinsky, New York (Random House), 1947.

11. 'Thirty-seven years', Stravinsky in the Theatre, ed. M. Lederman, New York (Pellegrini & Cudaby), 1949, pp.131-132.

12. Entretiens avec Claude Rostand, Paris (Julliard), 1952.

13. 'Quelques Souvenirs sur Paul Claudel', Nouvelle Revue Française, 1 September 1955.

14. 'Hommage à Béla Bartók', La Revue Musicale, 1955,pp.16-18.

15. 'Reminiscences of Debussy and Ravel', The Listener, 29 May 1958.

16. Correspondance Paul Claudel-Darius Milhaud, Paris (Gallimard), Cahiers Paul Claudel iii, 1961.

17. 'Stravinsky: A Composer's Memorial, P.N.M., vols. 9/2, 10/1, 1971, pp.9-10.

18. 'In Memoriam I.S.', Canons and Epitaphs, Set 2, Tempo no.98, 1972.

ADDITIONAL WRITINGS:

1. 'La Mélodie', Melos III, (N.Z.M.), 1922, Berlin, p.195 ff.

2. 'Ich glaube an die Zukunft', Melos XIX, September 1952, pp.242-3.

3. Cahiers Darius Milhaud, Champigny, Collectif musical internal de Champigny, 1972.

APPENDIX 2

DARIUS MILHAUD: SCORES (ANALYSED OR CONSULTED FOR STUDY)

1911	Première sonate: Violon et Piano. Op.3.
1912	Premier quatuor. Op.5.
1914-15	Deuxième quatuor. Op.16.
1915-16	Les choéphores.(Opera). Op.24.
1916	Troisième quatuor. (String Quartet with Soprano). Op.32.
1917	Deuxième sonate: Violon et Piano. Op.40.
1917-22	Les euménides. (Opera). Op.41.
1917	Première petite symphonie. Op.43.
1918	Quatrième quatuor. Op.46. Sonate: Flute, Oboe, Clarinet, Piano. Op.47. L'homme et son désir. Op.48. (Ballet). Deuxième petite symphonie. Op.49.
1919	Machines Agricoles. Op.56. (Voice & Chamber ensemble). Cinéma-fantaisie: Le boeuf sur le toit. Op.58b. (Violin & Piano).
1920	Catalogue de fleurs. Op.60. (Voice & Chamber ensemble). Cinquième quatuor. Op.64. Saudades do Brazil. Op.67. (Piano Solo). Caramel mou. Op.68. (Voice & Chamber ensemble).
1921	Troisième petite symphonie. Op.71. Quatrième petite symphonie. Op.74.
1922	Cinquième petite symphonie. Op.75. Sonatine: Flûte et Piano. Op.76. Sixième quatuor. Op.77. Trois rag-caprices. Op.78. (Solo Piano).
1923	Sixième petite symphonie. Op.79. Quatre poèmes de Catulle. Op.80. (Voice and Violin). La création du monde. Op.81. (Ballet - for 17 solo instrumentalists).
1924	Les malheurs d'Orphée. Op.85. (Chamber Opera).
1925	Septième quatuor. Op.87.

1926 La création du monde: Suite de concert. Op.81b.

1927 L'enlèvement d'Europe Op.94.(Opéras-minute).
Trois caprices de Paganini. Op.97. (Violin & Piano).
L'abandon d'Ariane. Op.98. (Opéras-minute).
La délivrance de Thesée. Op.99. (Opéras-minute).
Sonatine: Clarinette et Piano. Op.100.

1928 Christophe Colomb. (Opera). Op.102.

1932 Huitième quatuor. Op.121.

1935 Neuvième quatuor. Op.140.

1936 Le voyageur sans bagages: Suite. Op.157b. (Violin, Clarinet, Piano).

1937 Suite d'après Corrette. Op.161b. (Oboe, Clarinet, Bassoon).
Scaramouche. Op.165b. (Two Pianos).

1939 La cheminée du Roi René. Op.205. (Wind Quintet).

1940 Dixième quatuor. Op.218.

1941 Sonatine: Violin and Viola. Op.226.

1942 Onzième quatuor. Op.232.

1942-43 Quatre visages Op.238. (Viola & Piano).

1944 Première sonate: Alto et Piano. Op.244.

1945 Douxième quatuor. Op.252.
Sonate: Violon et Claveçin. Op.257.

1946 Treizième quatuor. Op.268.

1947 Trio à cordes: Violin, Viola,'Cello. Op.274.

1948-49 Quatuorzième quatuor, Quinzième quatuor. Op.291.

1950 Seizième quatuor. Op.303.
Dix-septième quatuor. Op.307.

1950-51 Dix-huitième quatuor. Op.308.

1964 Septuor à cordes. Op.408.

1971 Hommage à Igor Stravinsky. Op.435. (String Quartet).

1973 Etudes sur des thèmes liturgiques du Comtat Venaissin. Op.432. (String Quartet).
Quintette à vent. Op.443.

APPENDIX 3

DISCOGRAPHY:(A) COMMERCIAL RECORDINGS: CONSULTED FOR STUDY (Listed in alphabetical order of title).

1. La cheminée du Roi René. Op.205. Les solistes Français. Ensemble instr. à vent de Paris. Cybelia. CY814. (CD).

2. La création du monde. Op.81; Saudades do Brazil (4 Dances). Op.67b; Le boeuf sur le toit. Op.58. Orchestre nationale de France, cond. Bernstein. (LP).
3. Suite de concert de la création du monde.Op.81b. Alvarez Klavier Quartett. Bellaphon, Germany. 68 01 002. (LP).

4. Le Pauvre Matelot.Op.92,Paris Op.,Darlington,CY810.(CD).

5. Quatuors à cordes: 3,4,9,12,14,17. Musique Française du 20e siècle. D. Milhaud, Intégrale des quatuors: vol.1. (Quatuor Arcana). Cybelia. CY 651-652. (LP).
6. Quatuor à cordes: 2,6,15. Intégrale des quatuors: vol.2. (Quatuor Arcana). Cybelia. CY 653. (LP).
7. Quatuor à cordes: 1,7,10,16. Intégrale des quatuors. (Quatuor Arcana). Cybelia. CY 804. (CD).

8. Sonate pour flûte, hautbois, clarinette et piano. Op.47; Sonatine pour flûte et piano. Op.76; Sonatine pour clarinette et piano Op.100. D. Milhaud: Kammermusik für Bläser und Klavier. Aurèle Nicolet, Heinz Holliger, Eduard Brunner, Oleg Maisenberg. Orfeo. C060-831 A.(CD).

9. Scaramouche. Op.165b. D. Milhaud. Pièces pour un, deux et quatre pianos. Christian Ivaldi, Noel Lee, Michel Beroff, Jean-Philippe Collard.EMI C 069-12076.(LP).1972.
10. Trio à cordes. Op.274. Musique Française du 20e siècle. Trio à cordes A. Roussel. Cybelia. CY 645. (LP).

(B) B.B.C. BROADCAST RECORDINGS: CONSULTED FOR STUDY

1. 'L'abandon d'Ariane. Op.98. Broadcast Sept. 1989.

2. Saudades do Brazil. Op.67. Set 1. Louis-Philippe Pertillet - piano. Broadcast 1989.
3. Scaramouche. Op.165b. Imogen Cooper, Anne Queffélec - pianos. Broadcast 1989.

4. Sonate. Op. 47 (Flute, oboe, clarinet, piano).
5. Sonatine pour flûte et piano. Op.76. Aurèle Nicolet - flute; Oleg Maisenberg - piano. Broadcast 1988.

6. Suite d'après Corrette. Op.161b. London Wind Trio. Broadcast 1986.

7. Symphonies pour petit orchestre: Op.43,49,71,74,75,79. Aquarius, cond. Nicholas Cleobury. Broadcast 1989.

(C) RELEVANT RECORDINGS HELD AT THE PHONOTHEQUE NATIONALE

1. Catalogue de fleurs Op.60. (Daudet); Joachim - sop., Ens. dir. Franck; Le chant du monde LDX 78 410; (Bsn 68 - 0728).

2. Catalogue de fleurs, (Orch.); Le chant du monde LDA 8078; (July 1954); no. 20468; (C 10748).

3. Catalogue de fleurs; Hericand - sop., Collard - piano; VEGA, C 35 A 114; (Oct. 1957); (C3020).

4. La cheminée du Roi René Op.205; L'ensemble instrumentale à vent de Paris; VEGA, C 35 A 32; (Oct. 1957); (B 2113).

5. Interview de Darius Milhaud par Claude Rostand; (Interviews/Compositeurs); Decca FMT 163-664, (1956).

6. Quatre visages Op.238; Cybelia, CY 660, (1985).

7. Septième quatuor en si bémol Op.87; Quatuor à cordes galimir, dir. Milhaud, (1940); Polydor 561 101.

8. Douxième quatuor Op.252; Quartetto Italiano; Columbia FCX 309; (Oct. 1954).

9. Saudades do Brazil Op.67:'Ipanema'; violin and piano; DXG 16017; (May 1957).

10. Deuxième Sonate: violon et piano Op.40; Robert Soëtens - violin, Suzanne Roche - piano; Ducretet-Thomson LP 8239; (1953).

11. Sonates pour violon; Magne, MAG 2006; (1985).

12. Sonates françaises: clarinette et piano; Sonatine pour Clarinette Op.100; Harmonia Mundi, HMB 40/5121; Cote/SD 30/58826.

13. Sonatine: flûte et piano Op.76; Rampal- flute, Veryon-Lavoix- piano; Orphée, LDO E 51-021, (1961).

14. Symphonies pour petit orchestre: Op.43,49,71,75; Orchestre de Chambre, dir. Milhaud; Guide internationale du disque, MMs 108, (March 1956), (C 2292 B.N.).

15. Symphonies pour petit orchestre: Op.43,79; CBS S 72 803; (Bsn 70 0183).

16. Symphonie pour petit orchestre: Op.75; Prague Chamber Harmony Ensemble, Pések; Supr. 10 475.

APPENDIX 4
THE INFLUENCE OF JAZZ ON 'CONCERT' MUSIC

(A) THE CONTEMPORARY JAZZ SCENE: 1912-1925. (In relation to Milhaud's visits to the United States in the early 1920s).

YEAR	STYLE	COMMENTS
1912-15	Rag-time	Boogie-Woogie bass.
1917	Dixieland Blues	First records of Original Dixieland Jazz Band
1918	Blues	Louis Armstrong; Fate Marable's River-Boat Band; King Oliver in Chicago.
1920	New Orleans (Chicago)	New Orleans rhythm:Creole music of New Orleans had the African/ Spanish influence of the West Indies & Caribbean Islands.
1921	Blues	Original Dixieland Jazz Band: 'Shake it and break it'; 'Aunt Hagar's Children' (-heard by Milhaud?); Kid Ory:'Society Blues'
1922	(Harlem) New York L.A.	Louis Armstrong joins King Oliver at Lincoln Gardens; Fletcher Henderson in New York.
1923	Kansas	First records of Bessie Smith; Kansas City Band. King Oliver, Armstrong, Keppard, Morton, Bennie Moten's Orchestra.
1924	Kansas	Louis Armstrong with Henderson; Bix Biderbecke joins the Wolverines; Ma Rainey: 'Courtin' Blues'; Trixie Smith: 'Railroad Blues'.
1925	Kansas & New York	Louis Armstrong's Hot Five; Bix Beiderbecke and Trumbauer.

(B) 'LA CREATION DU MONDE' IN THE CONTEXT OF JAZZ-INSPIRED COMPOSITIONS (Before 1930)

YEAR	COMPOSER	TITLE OF WORK
1902-4	Ives	Rag-time Pieces for Theatre Orchestra
1908	Debussy	'Golliwog's Cake-Walk' from Childrens' Corner Suite (1906-8)
1911	Berlin	Alexander's Rag-time Band
1917	Satie	'Rag-time du Paquebot', from Parade
1917-22	Berg	Wozzeck
1918	Stravinsky	'Rag-time' etc. L'Histoire du Soldat
1919	Stravinsky	Rag-time for 11 Instruments
	Stravinsky	Piano-Rag Music
1921-2	Hindemith	Kammermusik no.1
1922	Hindemith	'Rag-time', 'Shimmy', from Suite for Piano
1923	MILHAUD	LA CREATION DU MONDE (Original)
	Walton	Facade: An Entertainment
1923-7	Ravel	'Blues', from Violin Sonata
1924	Gershwin	Rhapsody in Blue
	Honegger	Concertino for Piano & Orchestra
	Honegger	Pacific 231
	Krenek	Der Sprung über den Schatten

YEAR	COMPOSER	TITLE OF WORK
1925	Gruenberg	Daniel Jazz
	Gershwin	Concerto in F, for Piano & Orchestra
1925-7	Krenek	Johnny spielt auf ('Jazz' opera)
1926	MILHAUD	LA CREATION DU MONDE:(Suite)
	Copland	Concerto for Piano & Orchestra. (Jazz mutes on slide trombone; Dixieland rhythms).
1927-8	Weill	Die Dreigroschenoper
1927-9	Weill	Mahagonny
1928	Lambert	Rio Grande